RAILROAD MODEL Craftsman

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MAY, 1953

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√ Frank Ellison describes the construction of miniature bridges

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RAILROAD MODEL Craftsman

Twentieth Anniversary Year

including "THE MODELMAKER"—Est. 1924 and MINIATURE RAILROADING Magazines

VOL. 21, No. 12 MAY 1953

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THIS MONTH'S COVER: Freight and passenger yards, complete engine servicing facilities and long open runs are featured in this Canadian pike snapped for RMC by Walter R. Allen.

Published monthly by Model Craftsman Publishing Corp. at Emmett St., Bristol, Conn. Ed., Adv., and Ex. offices, Ramsey, N. J. Charles A. Penn, President and Treasurer, Helen M. Penn, Secretary. Entered as second-class matter at the Post Office at Bristol, Conn. Sept. 8, 1952 under the act of March 3, 1879. Price 35 cents per copy. Subscriptions $4.00 per year in the United States and Possessions. Canada, Foreign and Pan American subscriptions $4.50 per year. The contents of this magazine must not be reprinted without permission. Articles, drawings and photos are welcome. When requested, we will endeavor to return all material in good condition if a stamped envelope is enclosed. Unless stated otherwise by contributor, we will assume no remuneration is expected.

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Next Month

The June issue of Railroad Model Craftsman will feature a construction project that is suitable for use on every layout, regardless of gauge, size or period. Designed by Lloyd Giebner, the unit is a combination telephone shack and hand car ramp with the usual display of fire barrel and buckets. As adapted from a prototype installation on the Santa Fe, this right-of-way scenic device can be duplicated in a minimum of space and at a minimum cost.

In plan and picture form, another article describes a most unusual caboose now in use by the Illinois Terminal Railroad. It can be built up on a flat car body in short order and is sure to be one of your most interesting tail-enders. Other constructive material on passenger rolling stock is presented by Dr. R. K. Underman of Belvidere & Delta fame (April). Starting with standard Chester kits, the author describes all manner of details that can be quickly added by differing slightly from the kit instructions. This article is in picture form with all stages of construction vividly illustrated.

Many other informative articles will be included in the June Edition, building projects of wide interest to all readers. Look for this issue on your local newsstand May 28.

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O GAUGE EQUIPMENT

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O GAUGE EQUIPMENT

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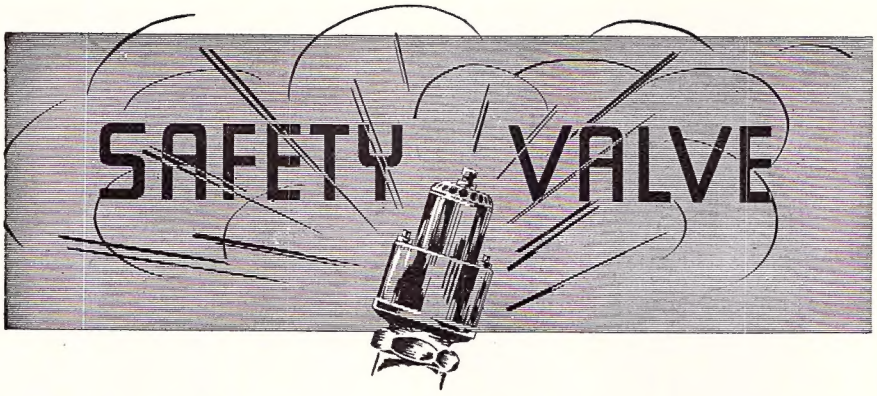

Checking Track Work

A method I have used many times in track laying might also prove useful to other readers. I remove the motor from the largest engine to be used on the particular track under construction, so that it rolls freely. It then becomes a gauge for checking curve alignment, radius, and track gauge. Thus if the largest engine will negotiate the curves, the smaller ones will undoubtedly also do so. *—L. E. Horner*

A Blacksmith at Heart

The trend toward the use of plastics in model HO locomotives is very discouraging and tends to cheapen the hobby. Give me the good old metal engines. *Al Krahmer*

(Ed's note: S'matter bub. You don't want to bring down the cost of living? Anyway, we expect that there'll be plenty of metal engines around for a spell. And plenty more plastic ones too.

That Goes Places

Frank Ellison is by far the top authority in model railroading and his ideas of track with ample space are a decided improvement over the stuff turned out by the circular nutshell specialists. If these guys want to build a circle of track, let them go back to tinplate. *Oscar Johnson*

North of the Border

Just want to compliment you on your improvements in RMC; the constructive articles are very good. The dispatcher asked in the February issue about HOO. I noticed some trains made by a European outfit called Rokla which have a 12mm track gauge which works out to 2.58mm equals one foot. The motor is in the locomotive and it even has operating headlights. The track is T rail on a tinplate base section which locks to adjoining sections.

Incidentally, try and tell Montreal custom officers that model railroad equipment isn't toys! Can anyone do anything about this problem???

R. Thomas Newton

There's One in Every Crowd

I get a kick out of all these so-called expert modelers who have been at the hobby for five or six years and then constantly brag about their prowess; probably not one of 'em has done anything more than assemble a few commercial kits. I'm particularly referring to one of the boys at the club who is always on hand to give expert advice to the new comers yet I know for a fact that this man has never built anything outside of a few car kits.

When visitors show up with questionable model railroading experience, my hero always gets them in a corner explaining at length the details of his mythical models. While other members are performing the many jobs necessary to get a large club layout in operation, the boy is expounding on his greatness of years past. I've told this gent my feelings, and with no reservations; that's why I'm now a lone engineer, building up a modest layout in the privacy of my own cellar. You can keep your clubs; I've yet to see one that's been on an equal working basis. *Geo. Harrington*

Never Say Die

In a recent dispatchers report, you mentioned the seemingly lack of interest in OO gauge. I believe just as many modelers are active in OO as there were ten years ago though very little material is available commercially at the hobby shops. Double O hobbyists represent some of the finest builders in the country today; a throw-back to the early days of our hobby. Although OO fans turn out creditable work they just don't want to continually boast of it! Anyone can be an expert in HO gauge.

Paul Drummond

Scotch Tape for Sale

Probably one of the most overlooked tools or materials in any home work shop is the lowly scotch tape. I keep it on hand for many, many jobs and continually unearth new uses.

Scotch tape is so handy around the model pike. . . . If motor brushes hit the inside of the engine, line the engine with cellophane tape. . . . *Everett Stalia*

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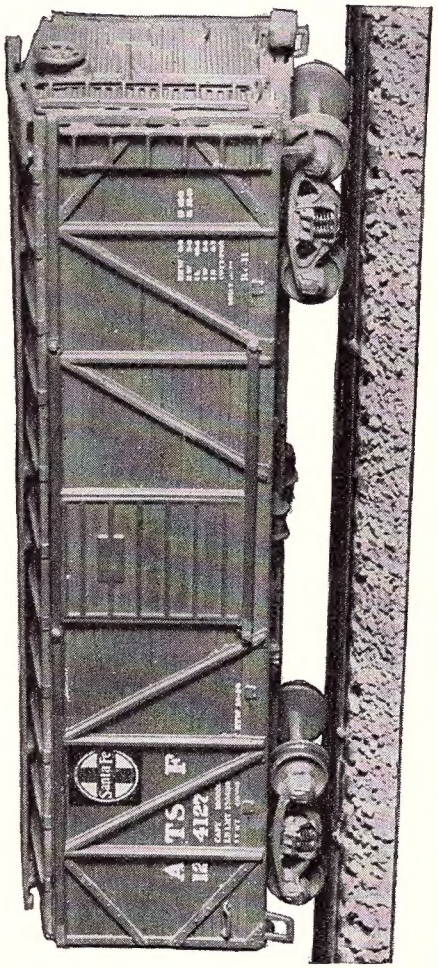

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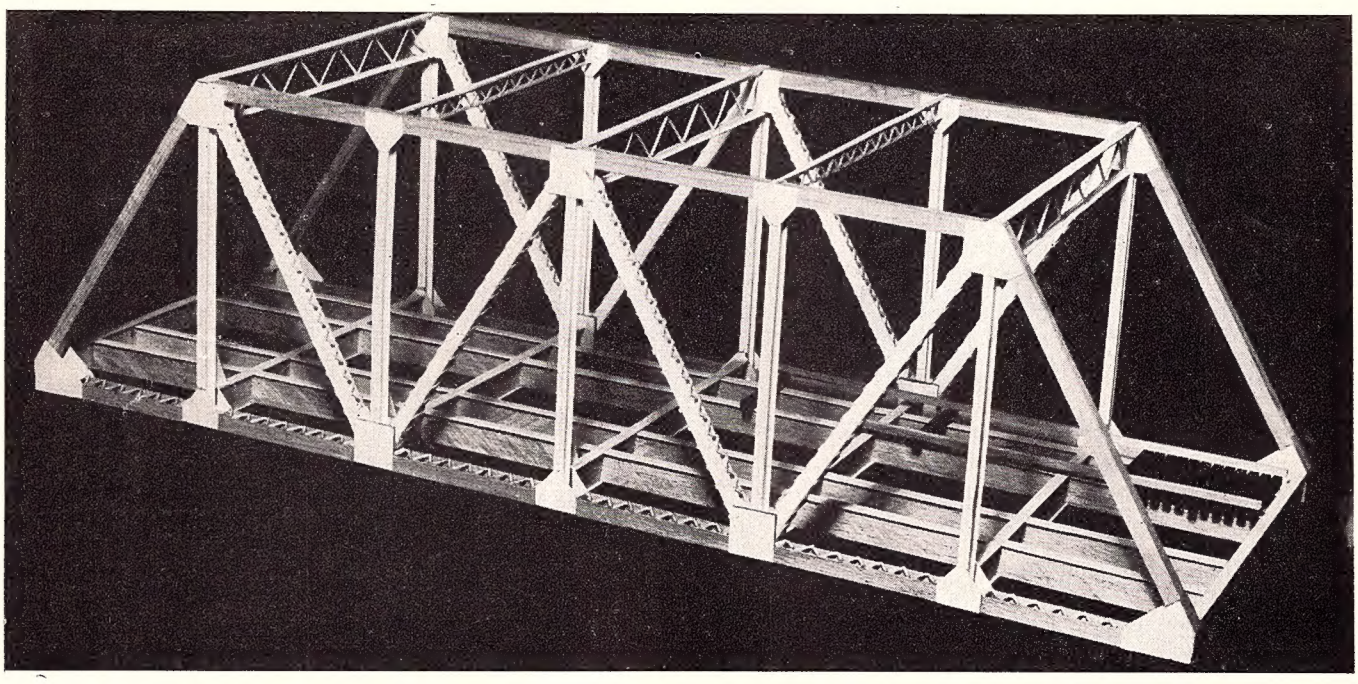


Truss bridge ready for painting.

four bridges . . . at LITTLE RIVER CROSSING

Part III

One of the most interesting scenic units on any model railroad is bridgework; in this series, the author describes four different bridges combined to form a single span. Each unit has been authentically duplicated from prototype installations.

Frank Ellison

For the benefit of those who came in late, the principles and construction of a river crossing and railroad overpass has been reported in March and April. The bridge is a series of four spans including a pile trestle, a through and a deck girder span, and a light truss bridge. We held a little clinic on the design and construction of the piers and the trusses last month and it ought to be pointed out that it is just as easy to build them right as it is to build them wrong.

A model, to be convincing, should look like its prototype. If it is built of different materials, for practical reasons, and joints are cemented instead of riveted, the joints must LOOK as if riveted even though rivet heads are too small to be seen. Every girder and minor part is dimensioned and designed to lap snugly with one another—web to web, web to flange. Consequently, there is ample area at the joints for the many essential rivets, and for gusset plates (cleats) to function as additional reinforcement. Lapped joints is a cardinal principle in assembling all steel structures which even the newest apprentice steel worker knows. If you build the model and carefully follow the text and drawings last month, it will stand close inspection by bridge engineers and workers.

You may not be so fortunate if you build the bridge featured in the March edition of another magazine. The cognoscenti will ridicule your work for in looks it violates every basic principle of bridge engineering. All main joints are butted instead of lapped (note the girder flanges). There is no place for riveting and the doodads which the writer calls gusset plates serve no function. The article leads off with this sentence: "A bridge of this type is seen almost wherever you go on a railroad." I disagree. It would NEVER be seen on a railroad because it would collapse of its own weight. A writer should be willing to think or to make basic research, and an editor of a book, purportedly supplying authentic technical information, ought to know his field well enough to separate the wheat from the chaff. But let's get along with our subject—

The Bridge Floor

There are quite a few ways to build it. For readers who do not want to tackle open gridwork, a board will pass

quick inspection if well concealed by ballast or covered with scale planking that overlaps the side—though full planking denotes foot passage and therefore a protective railing should run along each side, attached to the inner faces of the trusses. If you hanker for the railing, 40 thousandths brass wire will do, depending on your scale, with very small model-size cotter pins clipped or soldered to it to imitate the stanchions.

Fully planked decks are usually seen at terminals or other busy sites where foot passage for railroad men may be frequent and side areas used for refuge. Nearly all other truss decks are open gridwork, on which rest bridge ties 7 x 9 inches in cross-section, and to which rails and guard rails are spiked.

The ties are laid on 20-inch centers—closer for very heavy equipment—and their full thickness ought to be seen if you strive for convincing scale appearance. In this event thin tie strips should be avoided. A walkway of two or three 3x10″ planks is laid between rails on a single-track span, and between double tracks. Walkways are customary but not mandatory, depending on the road, bridge site and other local conditions.

A Choice of Three Materials

You have a choice of wood shapes, artboard, sheet metal or their combinations. All-artboard, and a combination of wood and artboard constructions are described here. Stock wood shapes—angles, channels, I-beams and stripwood—can be assembled by following the same basic procedures, supplementing artboard where wood cannot be used, such as in flanged gussets, etc.

The deck in the pictures was built up from flat stock in a week of evenings and is still batting out a good job while similar delicate structures in wood have gone with the democrats.

Finally, there is honest steel. A photo of a model under construction appears on page 9. It is built from light "IC" tinned sheets, folded, rivet embossed and sweat-soldered with an alcohol torch, and assembled by the same method used for artboard. This is the lifting leaf of a bascule bridge.

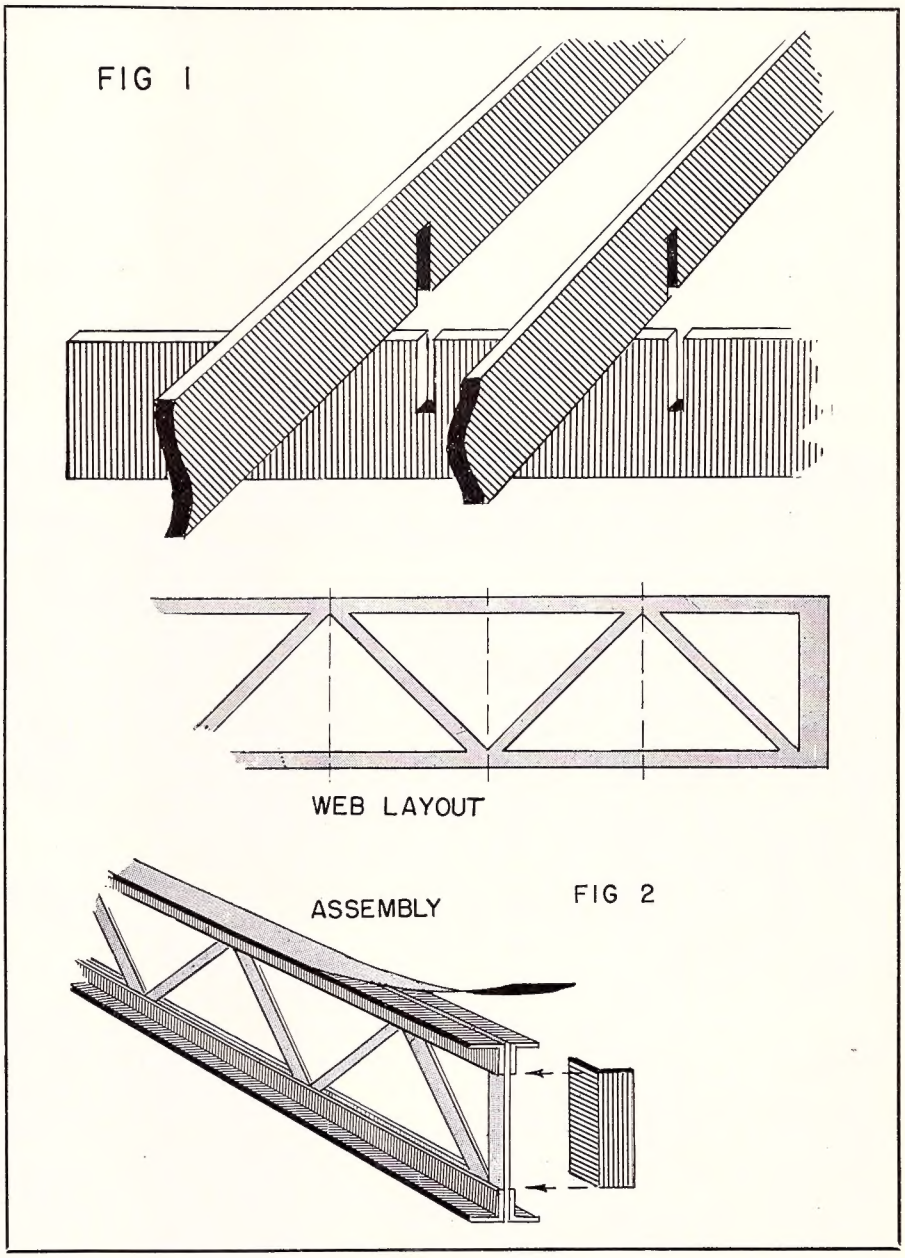
While a very strong deck of I-beams can be made of top quality bristol or Strathmore drawing board by cementing two channels back to back as described last month, I have made no actual load tests and therefore do not want to recommend it, because the structure would become an actual "working" span when trains move over it, subject to all the stresses of a real bridge.

Gum stripwood approximately two or three inches thick and 36 inches wide (scale) was used for the webs of the girders. These are quite thin, but the short intervals between intersections (see photos) stiffens them and they will not bend after assembly. They have carried two heavy O-gauge locomotives for fourteen years and look to be good for another fourteen. In an all-artboard deck, the trusses would actually support it at intervals throughout the span—the deck would hang from them. The grid of wood strips, however, being somewhat stiffer, supports the full load and trusses are mere decoration.

The longitudinal girders are the same length as the trusses. Clamp four of them firmly together. Lay them next to one of the trusses and mark the location for the saw cuts to receive the lateral girders where they will intersect. This will be at the centers of the upright struts. See photos. Clamp the longitudinals in the vise and saw notches half way through on the marks.

Next, cut off strips for the laterals the width of the bridge, measuring from the inside faces of the trusses—32 feet. Locate the running rail positions on them, clamp all seven of the beams together and saw notches half through on the marks. Figure 1 clarifies the process. In this way, you will be sure to have all notches accurately and evenly spaced on all the beams. Fit the laterals and longitudinals together by inserting them in the notches (Fig. 1). When nested the grid should be quite firm. To assure greater rigidity, the notches should be covered with cement before final assembly.

Cut out a number of artboard strips a scale 12″ wide and cement along the top and bottom edges of the gumwood girders, thus forming flanges. Finally cut out four corner angles for each lateral and longitudinal girder and cement one on each side at each end. When assembling the bridge, the angles on the laterals are cemented to the vertical struts in the trusses, and the longitudinals to the plates at each end, making



every joint firm and enduring. The corner angles are 36″ long and each face is 6″ wide. Score down the center of each and bend sharply over a straight-edge to make a 90″ angle.

The Sway Bracing

These delicate-looking latticed girders are made up of five parts: a central latticed web and four angle strips (3x3″) fastened at top and bottom on each side. In making the web of diagonal braces, lay strips of bristol board on the bench. They are 32 ft. long and as wide as the height of the girders. Mark them off into 12 equal sections with a compass or divider. Then with right angle, draw crosswise lines and lay out the diagonals between the lines as in Fig. 2. The diagonals will be approximately 45 degrees. With sharp knife and ruler, cut out the triangles, leaving the web of light diagonals and narrow strips top and bottom.

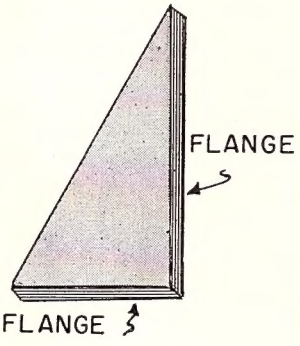
Assemble four angle strips to the web with cement to form the flanges across the top and bottom and put under pressure for a few minutes till the cement has set. A light strip of typewriter paper cemented over the flanges conceals the crack. Extend it across the upper chord of the trusses and in the final assembly cement them.

Finally make a number of corner angles as for the deck girders and cement them. When mounting the sways to the trusses, these corner angles are cemented to the vertical struts. Thus fastened top and both sides, the joint will hold for years.

In actual practice, nearly all diagonals in latticed girders are flanged to resist buckling when under compression. They would be very small in the models—perhaps too small to be noticed when painted—and are omitted.

Light bridges like the model require

FIG 3



no sway bracing across the portals and these were omitted in the model. You may add them if you like.

Assembly

Lay the bridge deck on the workbench, spread cement over the ends of the lateral beams and their corner angles and press one of the trusses against them for a few minutes until the cement has set. Place a try square against the truss to be sure that it will be perpendicular to the deck. A number of triangular gusset plates should be cut out and small flanges turned on them as in Fig. 3, so that they can be cemented to the upper flange of the deck beams and to the vertical struts. This will make a rigid joint. Assemble the other truss in the same way. The sway girders are similarly fastened to the upper part of the trusses.

Cement the cross ties along the longitudinal deck beams. Fasten the rails down, extending them a few inches beyond the ends of the span, and set the bridge on its piers.

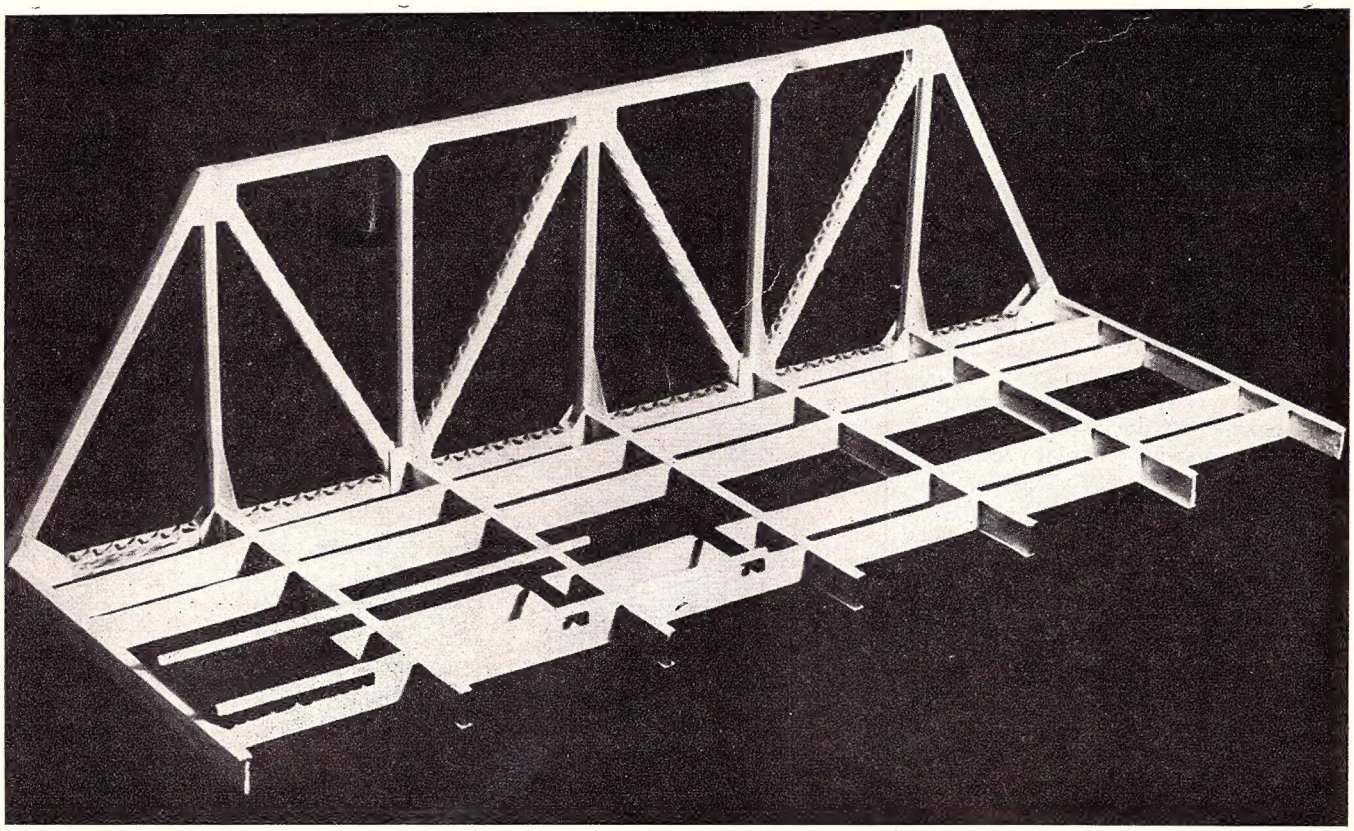
Finishing Touches

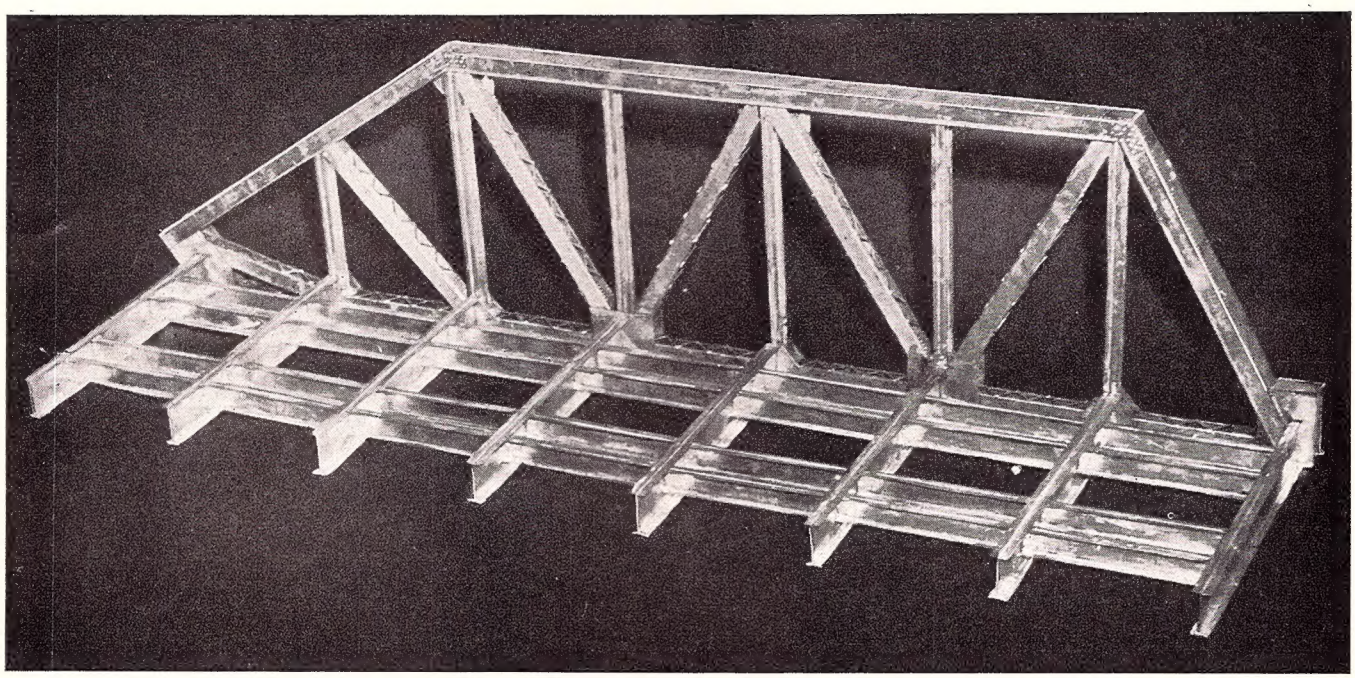
When all bridge units are assembled for a trial fit, the crossing site looks like photo 2, page 9, in the March edition. Any span can be removed from the group for last minute touches, alterations and painting.

Rails overlap the abutting structures and their joints should be staggered, which smoothes out operations and reduces derailments. Make bright spots on the rail heads with the edge of a half round Swiss file where they overlap each other. Remove the spans and cut the rails to length for snug butt joints with their mates on the adjoining spans. Use a fine hack saw for O gauge, then file off the burrs and bevel all edges slightly to accept fishplates easily. HO rail can be snipped off with a cutting pliers, then filed down to the mark with an 8″ single-cut mill file, and bevels polished with a fine Swiss file.

If you would reduce derailments to a minimum, take extra care with this

Assembling bridge deck to truss.





A sheet metal truss designed for the lifting leaf in a bascule bridge. I-beams are two channels sweated back to back. All joints in the truss are lapped. The lateral girders in the deck are butted to the truss and fastened with corner angles and triangular gussets. The longitudinals which support the ties are short lengths butted to the lateral girders and fastened with corner angles. All joints are soldered with an alcohol torch.

track work. Drive extra spikes at and near joints to lock the rails in straight alignment and gauge. Shim up bridge piers that are too low and thus remove vertical angles or sharp vertical curves. I cannot recall a single derailment due to track since the bridges were put in operation many years ago.

When fishplates are slipped over the rail ends for joining, crimp them to the base of one rail with a cutting pliers to prevent them from creeping off. Do not crimp the fishplates to the adjoining rail; leave the rail free to slide out in the event repairs are needed. Thus you can remove a bad-order unit without disturbing the rest of the structure.

Open-deck spans should have guard rails spiked to the ties about five or six inches inside of the running rails—the ends curved in toward the center line of the track, but not necessarily touching in a V point.

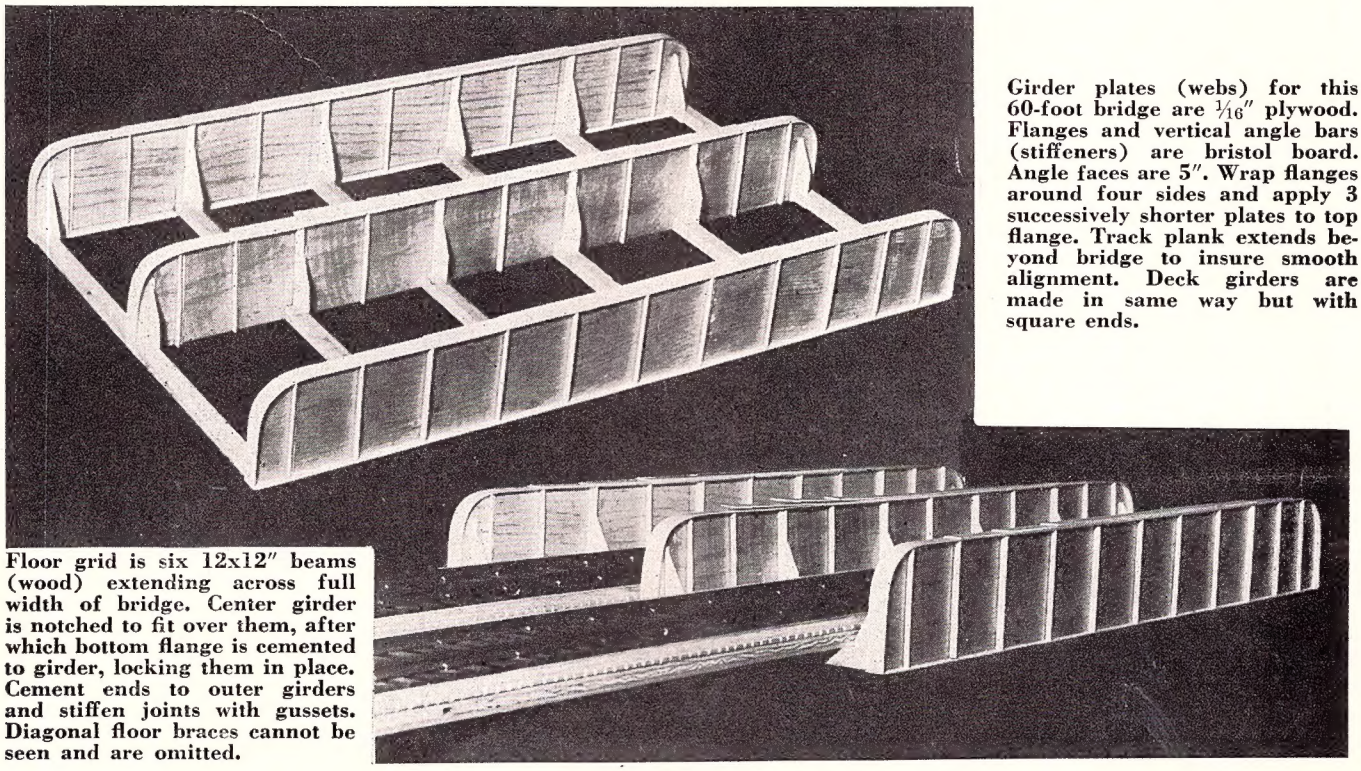
4 x 8 inch guard timbers are cemented near the ends of the ties and reinforced at every third or fourth tie with short domestic pins which can be pushed through the ties with pliers and steady pressure.

Tracks on ballasted decks are rarely guarded.

Painting

Remove each unit from the group and paint it separately. I painted all units brownish-black, which is to say

(*Continued on page* 47)



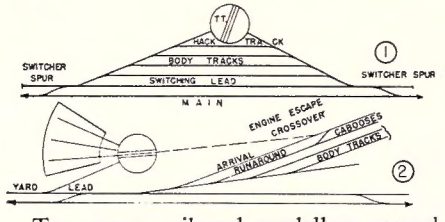
Girder plates (webs) for this 60-foot bridge are 1/16″ plywood. Flanges and vertical angle bars (stiffeners) are bristol board. Angle faces are 5″. Wrap flanges around four sides and apply 3 successively shorter plates to top flange. Track plank extends beyond bridge to insure smooth alignment. Deck girders are made in same way but with square ends.

Floor grid is six 12x12″ beams (wood) extending across full width of bridge. Center girder is notched to fit over them, after which bottom flange is cemented to girder, locking them in place. Cement ends to outer girders and stiffen joints with gussets. Diagonal floor braces cannot be seen and are omitted.

YARD DESIGN

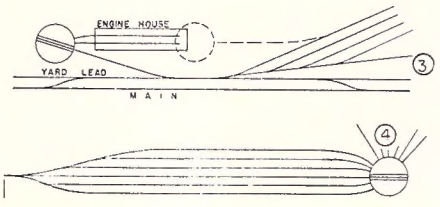
THE complete double ended yard arrangement similar to fig. 1 is close to the ideal set-up for a model railroad since practically no backing movements of *trains* is necessary, thus minimizing derailments. It is probably closest to prototype railroad practice since an engine can easily escape from any track. Unfortunately for us, real railroads have a lot more length at their disposal than we modellers do. While railroaders may yearn for a double ended yard, very few of them actually have the space for one, or, what is nearly as important, the funds for the double set of yard switches required.

The more usual model railroad yard is single ended, a variety seldom found in real railroading and then usually for storage, not classification. Space and money make us adopt the single ended yard, which we use for both classification *and* storage. And then too many of us pick the two longest yard body tracks and run a crossover between them as in fig. 2 to let the engine of an arriving train escape. The engine can then go to the roundhouse or to the rear of the train for switching or a return trip.



Too many railroad modellers regard an engine escape crossover in the yards as an essential, at least judging by the letters I receive from time to time laying *me* out for failing to include them in my plans. Maybe some explanation of the engine escape problem with regard to model railroading is in order.

To begin with an engine escape crossover in a model yard is sheer waste of space. Your two longest yard tracks and at least three switches are wasted, since they are useless for either classification or storage. The arrival track must be kept clear for the arriving train or is occupied by it, while the run-around track must be kept clear for the passage of the engine. The stub of the run-around beyond the crossover may be used for caboose storage, about the only saving feature. Also the arrival track may double as a departure or make-up track. Not only is the capacity of these two tracks (except for cabooses) wasted, but their capacity for arriving trains does not reflect their full length. In HO for instance, about 16" must be left for the engine to pull up and another 16" is taken up by a #6 crossover, 32" or five freight car lengths that cannot be used. With #4 crossover and shorter engines, 12" can be used in both places, giving only 24" not usable, or four car lengths.

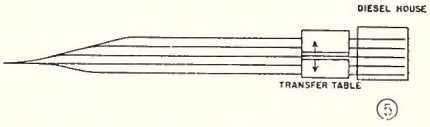


If you must have an arrival track in the single ended yard, you might try to have an escape track to the turntable as shown dotted in fig. 2. However a much better arrangement for arrival of trains from *either direction* is shown in fig. 3, where there need be no official escape crossover. The two crossovers (or switches) connecting the yard lead with the main line serve that purpose for either direction and the main line itself, which must be kept free anyhow, is used for run-around purposes. The road engine or a switcher may then put the train in the yards and attend to sorting it out. This is the perfect use for that switcher on your railroad. The switcher spurs need not be as short as shown, a good idea being to connect them with an oval track partly hidden around the rest of the table. At least they may be extended so that both may serve at their far ends as industrial sidings (thus saving switches). Notice how the parallel track engine house saves much space in this sketch. The turntable and lead shown dotted, while not too desirable because of the many switches that must be crossed to get to the turntable, is valuable in model practice since often the main line at left curves off so soon that there is not space for the turntable lead switch drawn regularly. This dotted set-up also would seem to waste a whole yard track, but really only half is wasted, since the back half can be used as caboose or work train storage. Not safe the Brotherhoods would say for sure, but our little lead people haven't organized yet (luckily for us exploiters).

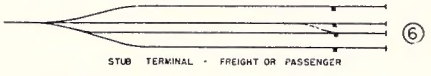
I should mention that run-around tracks, engine escape crossovers, etc. are not only permissable but necessary at a one-engine stub terminus, as on a branch line or small railroad. One ruse that does save length is to use a turntable as in fig 4. This will change the engine from whatever track its train arrives on to any other track that happens to be empty, or to the engine-house, and will of course turn the engine around in the bargain. Prototype roads would frown on this design because of the danger of shoving cars into the turntable pit by accident, but modelers need not be bothered by such qualms: we're short on space and money.

Fig. 5 is a variation on fig 4 where diesel or electric engines are used. Since these do not require turning, a turntable would be wasted, so we can install a *transfer table* to move engines to the right track. (Does anybody have and use a model transfer table?)

You might think engine escape crossovers would be necessary at a stub terminal as in fig. 6, but here the switcher comes to the rescue. The engine simply uncouples and pulls up past a gap in one rail to a section of track just about long enough for it. Power to this section is fed through an SP4T rotary switch or 4 separate SPST toggles on the control panel so that the engine *can* escape *after* a switcher has pulled the cars out to the yard or another terminal track.



A single ended stub yard similar to this passenger terminal may occasionally be worked by one engine, without escape tracks, in prototype practice. You'd wonder how, wouldn't you? Well,



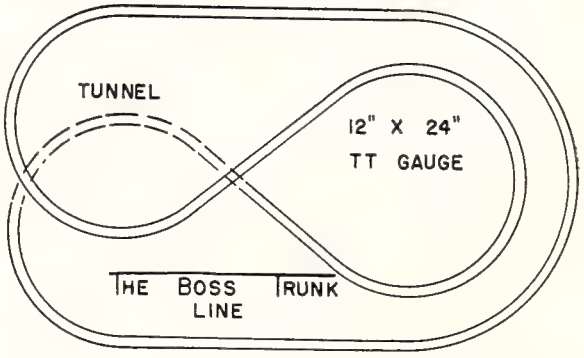
one way is having the approach (lead) to the yard on a grade. By dropping the cars out on the grade and running alone into one of the sidings, the train crew can then release brakes and let the cars coast into another track by gravity, thus by-passing the engine which can then get to the rear of the train. On flat land the same can be accomplished with a "flying switch." This is a maneuver (officially outlawed) where the train is uncoupled from the engine while both are in motion. The engine then speeds up and gets into the clear. As soon as it has passed a given switch, a crew member throws this switch and lets the cars, which still have some momentum, run into another track. Neither of th ese maneuvers has been done in model practice to my knowledge, although with some of the improved uncouplers available there is a possibility at least of making a "flying switch."

BOSS TRUNK LINE

By Ray Boss

A pint sized pike with realism to spare. An excellent means to gain experience for bigger layouts in the future. Turn page for details.

This general store and outhouse were fashioned from card stock with roofs of kleenex. With exception of miniature figure, all material in this scene are from the scrap box. Roadway is of cloth painted black. Sketch at right shows the track pattern as it fits a space of 1x2′, possible with sharp curves and steep grades.



Housed in a specially built plywood case with hinged cover, this TT gauge portable layout is known as the Boss Trunk Line. For traveling purposes, the trunk is provided with suitcase catches, center lock and large carrying handles on each end. The bottom section of the case houses all power supplies, a four amp Scintilla power pack and a door bell transformer for building lights, both operated from the control panel at front of case. All wires from the power supplies can be unplugged from the bottom of the layout. The trackwork and scenery itself are held in the case by four machine screws and can be lifted out to service either the layout or controls. The cover, held open by a special catch, contains a painted background scene.

To make the layout completely portable, the overall size was kept to a minimum, only 12 by 24 inches. HP track and roadbed were used throughout with no rail joints; each rail is in one piece with the ends silver soldered together. Although in use for a number of months, no trouble has been experienced by not leaving space between the rail ends; due to expansion and contraction, this would cause trouble on a layout of any size. Motive power is a Lindsay Tiny Tim to which full working valve gear and other details were added. This small locomotive pulls a flat car and caboose around the extremely sharp curves and steep grades with no hesitation and it still has power to spare. The flat car is an HP unit, shortened to a scale of thirty feet, with brass ends and bolsters added; the whole assembly was soldered together. A brake wheel and ratchet were fashioned from scraps and the couplers were filed from pieces of brass. A load of heavy machinery, made from pieces of a music box, is strapped to the floor of the flat car. Caboose is also HP with a few added details; both the caboose and flat car use Kemtron arch bar brass trucks.

Building The Scenery

Scenery was built up on a wooden framework, covered with bronze screening and plastered with texture paint. Earth was painted with thinned oil colors and the grass was dyed with different shades of thinned green oil paint. Some of the rocks are real, others were molded from plaster but both are solidly embedded in the overall groundwork. The road is wood, covered with overlapping pieces of cloth, then painted flat black to resemble asphalt. Unlike conventional building procedures, the road and buildings were finished first and then the screen and plaster were built up around them for added realism. This method could also be used on larger layouts if you finish one section at a time.

The tunnel portal and stone wall back of the mill were carved in linoleum; this material is seldom used on the average layout but it works out to excellent advantage. It is easy to cut, chip, curve and takes paint readily. The water in the mill pond and the pond below the trestle are made of liquid plastic baked in with a photo-

flood lamp. The mill pond, not shown in the photos, has dead branches of trees, made of small weeds, embedded in the plastic. White plaster pond lilies with yellow centers and green paper lily pads float on top. Water flowing over the mill wheel is made of two layers of wrinkled cellophane with bubbles of clear lacquer in between.

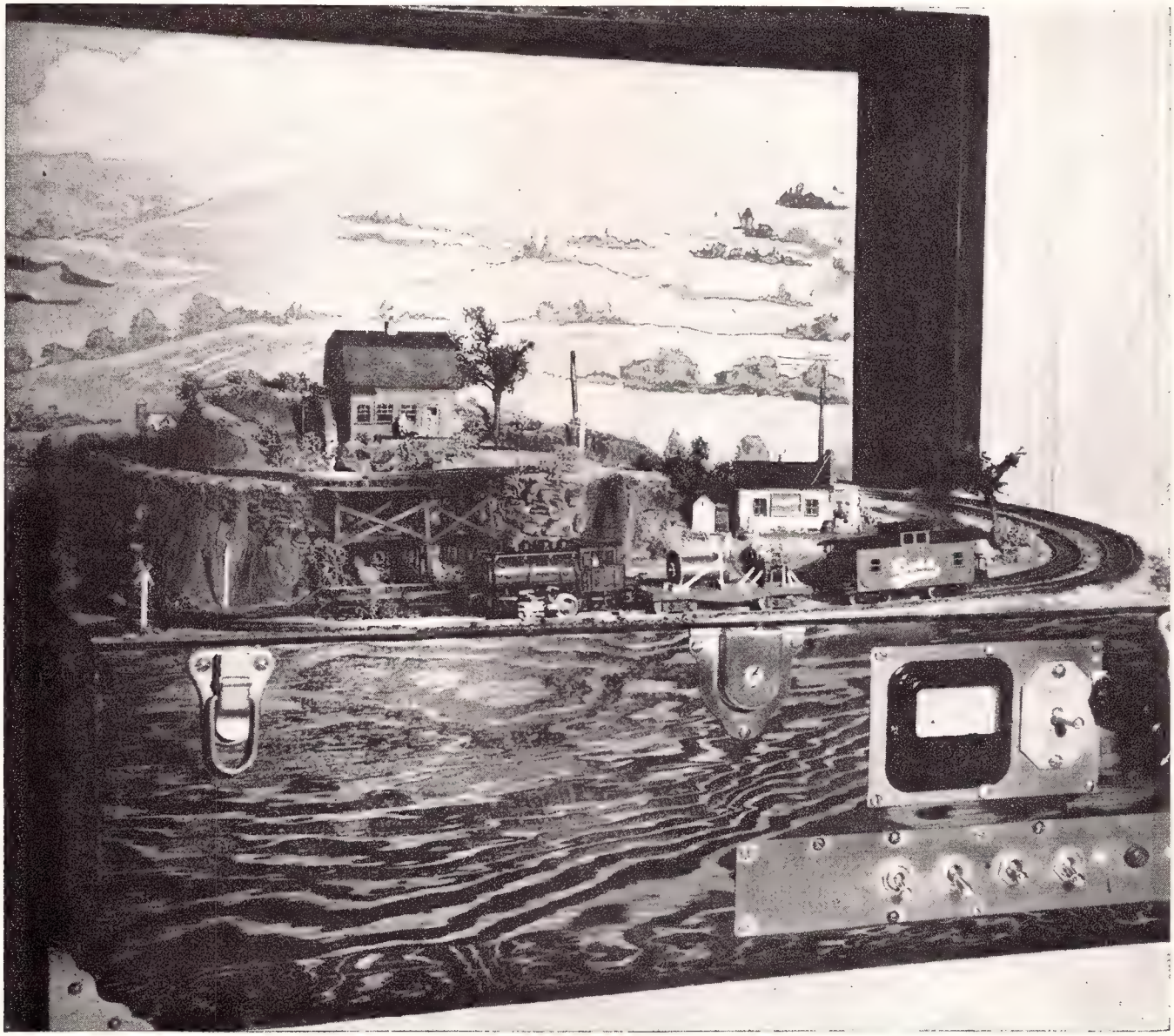
Mill Construction

One of the scenic highlights is a small mill which occupies the center of the layout; it was made of card stock over an extra heavy wooden frame. The eight inch vertical boards are all cut individually from drawing paper and glued on the walls; this could have been made of sheet wood with the individual boards scribed in place. Window frames and sash were made up of card strips, glued to the walls. These were painted before cementing in place. The foundation or base of the building is plastered and carved to represent a stone foundation. Card stock over a wood frame formed the roof construction; the card was covered with paper shingles applied in long separate strips. As each strip was added, Individual shingles were indicated by making tiny cuts with a modeler's knife. The mill wheel is built up of wood with metal bracing and small pins to look like bolts. And, it really **spins.** The wheel is revolved by a small motor concealed inside the mill; by using a specially built gear box the wheel turns very slow, a most realistic sight. A series of cranks and shafts from the gear box, all concealed, extend out under the porch of the mill. These cause the man in a rocking chair to rock back and forth very slowly while the dog wags his tail! And all this in TT! One board in the porch floor is removable to inspect the mechanism beneath and the roof is removable to service the motor if necessary. All shafts including the motor and gear box run in oiless bushings; only the gears need to be oiled occasionally. Although space is lacking in this display, this same idea of moving scenery can be adapted to a number of units in every gauge; a blacksmith could be swinging a hammer, children could be waving to a train or a windmill could be spinning in the breeze. Any or all of these items would help to form a realistic background for your rolling stock.

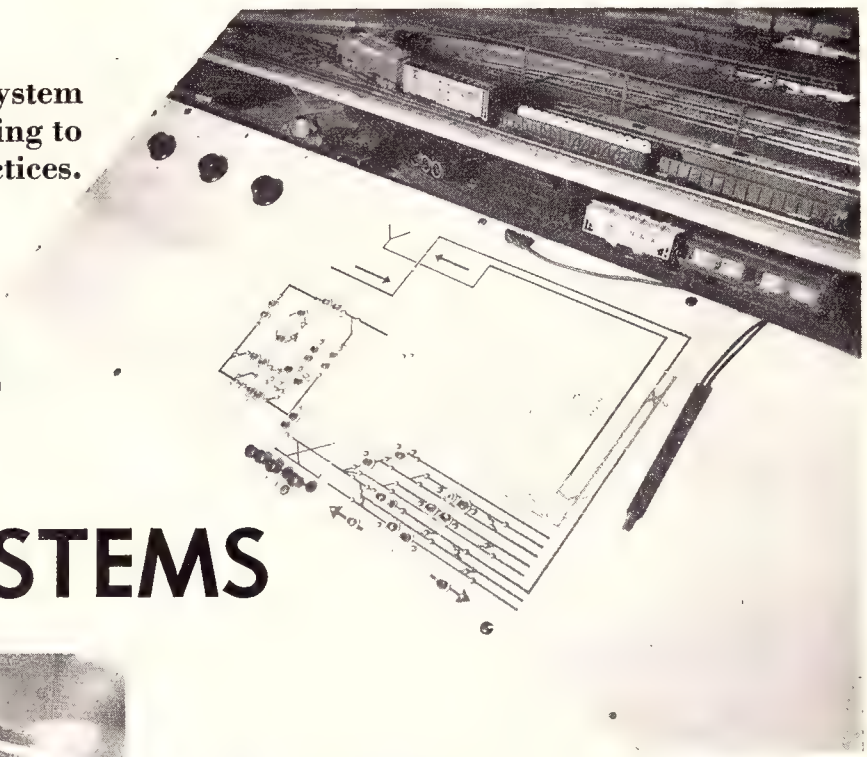
The only other building on the layout is a general store; construction is much the same as for the mill. Clapboards are all put on separately and

(*Continued on page* 31)

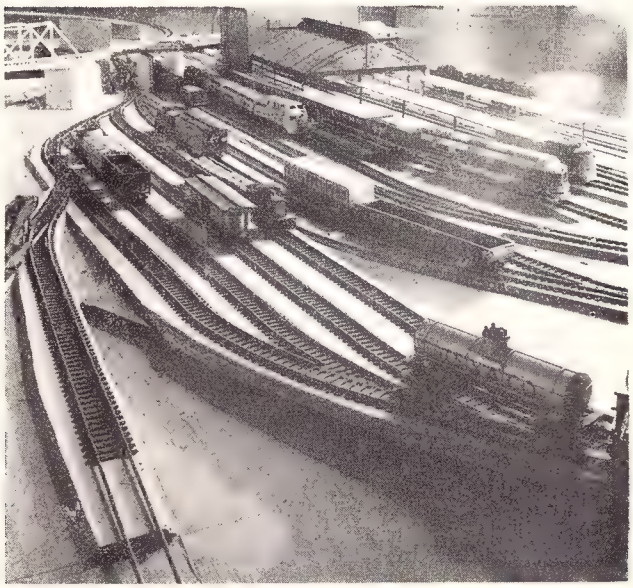
An overall view of the portable layout housed in a specially designed suitcase. Power controls are in bottom of case operated from panel at right. Top of case easily fits over tallest portion of the railroad.



Adding controls and a signal system to an extensive HO road according to adaptations of prototype practices.



CONTROLS & SIGNAL SYSTEMS



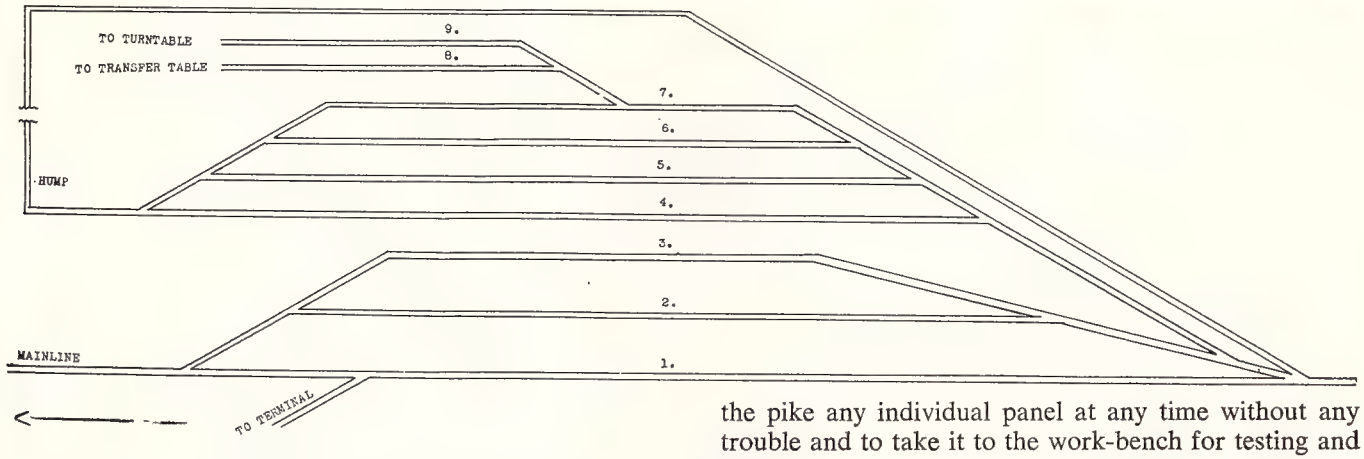
WITH terminal tracks completed and the corner stone laid for a modern station the Hollywood & Buxtehude RR work crews are rushing to complete the freight yards and engine facilities. Track No. 1 is a section of the main line and is to be used only for fast freights which stop for short periods of time to load or unload. For longer lay-overs, tracks No. 2-3 are used as a receiving yard. Here freight trains arrive and while the road engine pulls away for servicing, a switcher goes to work and redistributes the cars, pulling off those which are to remain and picking up others in the storage yard. The cars which are to remain are maneuvered into line and are then pushed up to the hump from where they may be redistributed in the hump-yard as necessary for future uses. Meanwhile the road-engine is ready to take over its duty again and the freight moves out of the yard onto the main-line and off.

It can easily be understood from the above that the moves to be made in the freight yard are so varied that it would not only be very complicated but also impractical to attempt to work out a system of automatic operation here. The only simplification which I decided on in this section of the layout was to interlock some of the corresponding turnouts as this will prevent unnecessary derailments. To accomplish this interlocking of turn outs I have in most cases simply wired two sets of switch machines to the same SPST switch. But in some cases it was practical to interlock them by means of rodding, thus reducing the number of necessary solenoids. This latter is only advisable when the two turnouts are located closely together on the pike as a complicated system of rodding

On the authors elaborate HO system, most of the work has been concentrated on good trackwork and control systems. One of the few background details is a partially completed station area of modern design.

The authors HO road features a complex freight yard with all of the switches manually operated. Corresponding turnouts will be interlocked to prevent unnecessary derailments, accomplished by wiring two switch machines to the same SPST switch and by means of rodding.

HBRR YARD TRACKS



and linkage will produce too much physical resistance to insure trouble-free switch machine operation.

As it is most unlikely that more than two switch-engines will operate simultaneously, one in the receiving-departure yard, the other in the hump yard, I have broken the freight yard into only two circuits each with individual direction control but have provided a sufficient number of blocks to make it possible to have a loco stopped on one track while another moves about on an adjacent track. In addition the tracks leading to the turn and transfer-tables are an additional circuit.

If it is planned on a layout such as this to have a great many operations in the yard performed at the same time, it would be advisable to put in separate cabs to control each section of the yard as well as one for the terminal. This type of cab control in addition to the regular control-board come under the heading of future planning in the books of the HB RR.

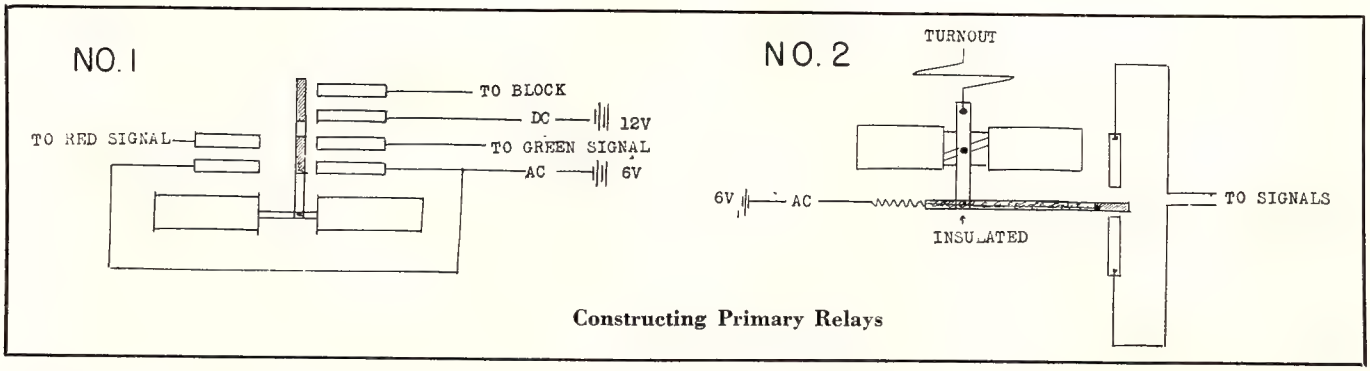
Whether designed for cab control or for one central control-panel, the controls should by now be in their final stages of construction as all but the remaining (mostly elevated) section of the mainline (Circuit #A) and the engine facilities are now operating. A picture of the HB RR control board is shown. You will notice the radio tube plug-in bases (8-prong) which I used to make it possible to connect and disconnect this board at will. Each line leading to the board is numbered and a nail is soldered to the end to be used as the male plug to fit into the female under the board.

This system of plug-in connections is used in the HB RR throughout. All wires from the power sources lead to a central distribution panel. From here they go to the relay boards, to the control-panel and back to the relay-boards and from there to the tracks, blocks, signals, switch-motors etc. In handling the connections in this manner it is possible to disconnect and remove from the pike any individual panel at any time without any trouble and to take it to the work-bench for testing and repairs. This is a lot more desirable than to have to spend hours in a crouching position under the pike, trying to locate trouble and to eliminate it.

On the photographs which accompany this article, you will notice that I have done practically no landscaping to date (The yet unfinished station was the result of getting sick and tired of laying track day after day). While the temptation to start scenicking has often been strong during these early stages of construction, I realized that scenicking would only be in the way in many of the wiring, signaling and testing operations which are yet to follow. And to me there can be nothing more poisonous, than a beautifully landscaped pike on which trains only barely manage to run because the brasshat was so eager to see mountains and trees, that he forgot to make sure his trackwork was perfect and by the time he found out what corrections had to be made, it was too late, unless he wanted to tear down his beautiful scenery.

While I do not think it advisable to install signals at this stage of construction, both, because scenicking in many cases will make it necessary to move actual signals and because so much time can be spent on an efficient signal system that other necessary phases of construction might be neglected for months, let me go into the proposed signalling on the HB RR in principle at this point.

A signal system on a pike such as this, where many train-moves and turnout positions are hidden from view, has to serve a multiple purpose: A: It is to lend authenticity to the pike. For this purpose the signals should represent prototype structures as much as possible and should be placed in positions where they would most likely be found on prototype railroads. B: It is to show the operator of the pike the positions of turnouts as well as the direction in which trains are travelling



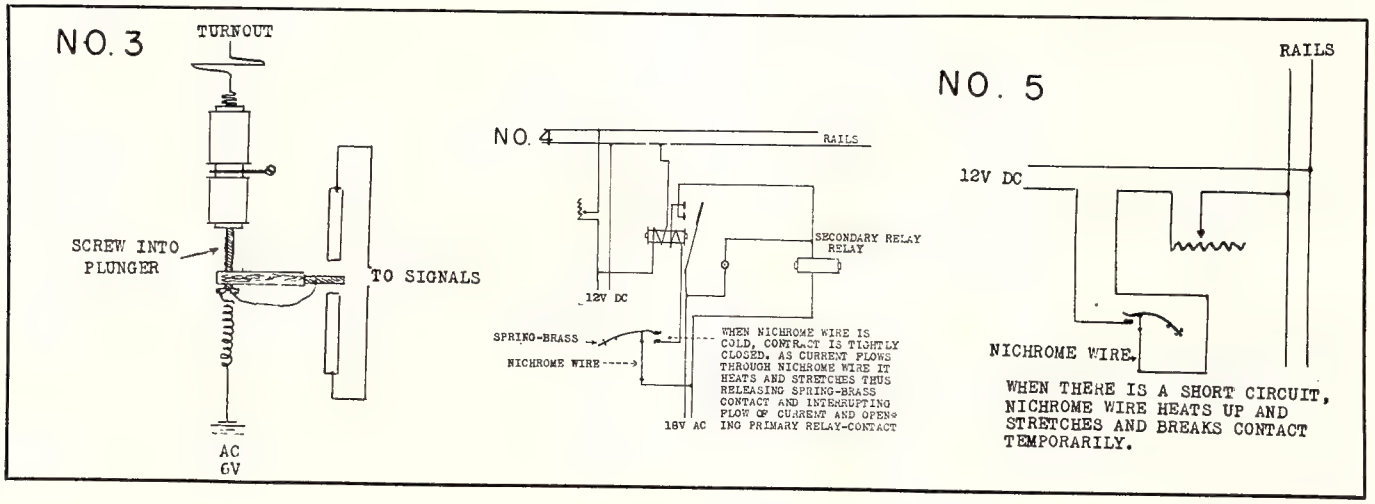
Constructing Primary Relays

and in addition it should tell at a glance which blocks are "off" and which "on". To accomplish both these purposes certain liberties have to be taken with prototype signalling, and ingenious devices must at times be invented to help the operator get a clear picture of the everchanging position of the pike. (Remember that in the automatically controlled sections, changes are continually brought about by the moving engine.) In many cases the same signal will easily serve both purposes and often a move of only a few inches will bring a hidden signal into clear view of the operator. In addition it is advisable to build lights into the control board. If a combination of these two methods is not sufficient, additional gimmicks can be devised which not only serve to help the operator, but which also add life to your pike, thus fascinating the onlooker who does not know that they serve a specific purpose. This "Code-type" of signalling can be accomplished by putting certain combinations of lights into buildings (if the upper story is lit, the block is "on", if the lower story is lit, the block is "off"), by constructing billboards and other advertising signs with changing illumination and so on. With a little thought a multitude of possibilities present themselves along this line and they are only limited by the extent of ingenuity of the builder.

As to the wiring and electrical operation of the signal circuit, I have used the switch machines and secondary relays throughout the HB RR for this purpose by attaching contact arms and Fig.'s 1, 2 and 3 as well as the sketches in the August '52 issue of the RMC clearly show how this is worked. In planning your scenic effects, be sure to keep these signalling problems in mind and make allowances for their future installation.

At this point let me pass on to you an improved method of constructing the primary relays. If you have experimented with the method of engine-to-rail activation of the primary relays, described in the September '52 issue you will probably have encountered the same kind of trouble which I have found. Due to the extremely short period of time during which the moving wheels make contact and thus close the primary relay, the secondary relay often does not get enough juice to fully move to the desired position. This is especially true when the secondary relay is a switch-motor or similar device which needs considerable power to operate satisfactorily. The problem therefor was to devise a means of holding the primary relay in a closed position, even after the wheels of the engine have left the contact plate, thus permitting it to shoot sufficient current into the secondary relay. Fig. 4 shows a thermo control system which performs this operation to complete satisfaction at all times. The thickness of the nichrome wire can be arrived at by trial and error, to permit it to get red hot but not to be so thin that it might melt with the current used.

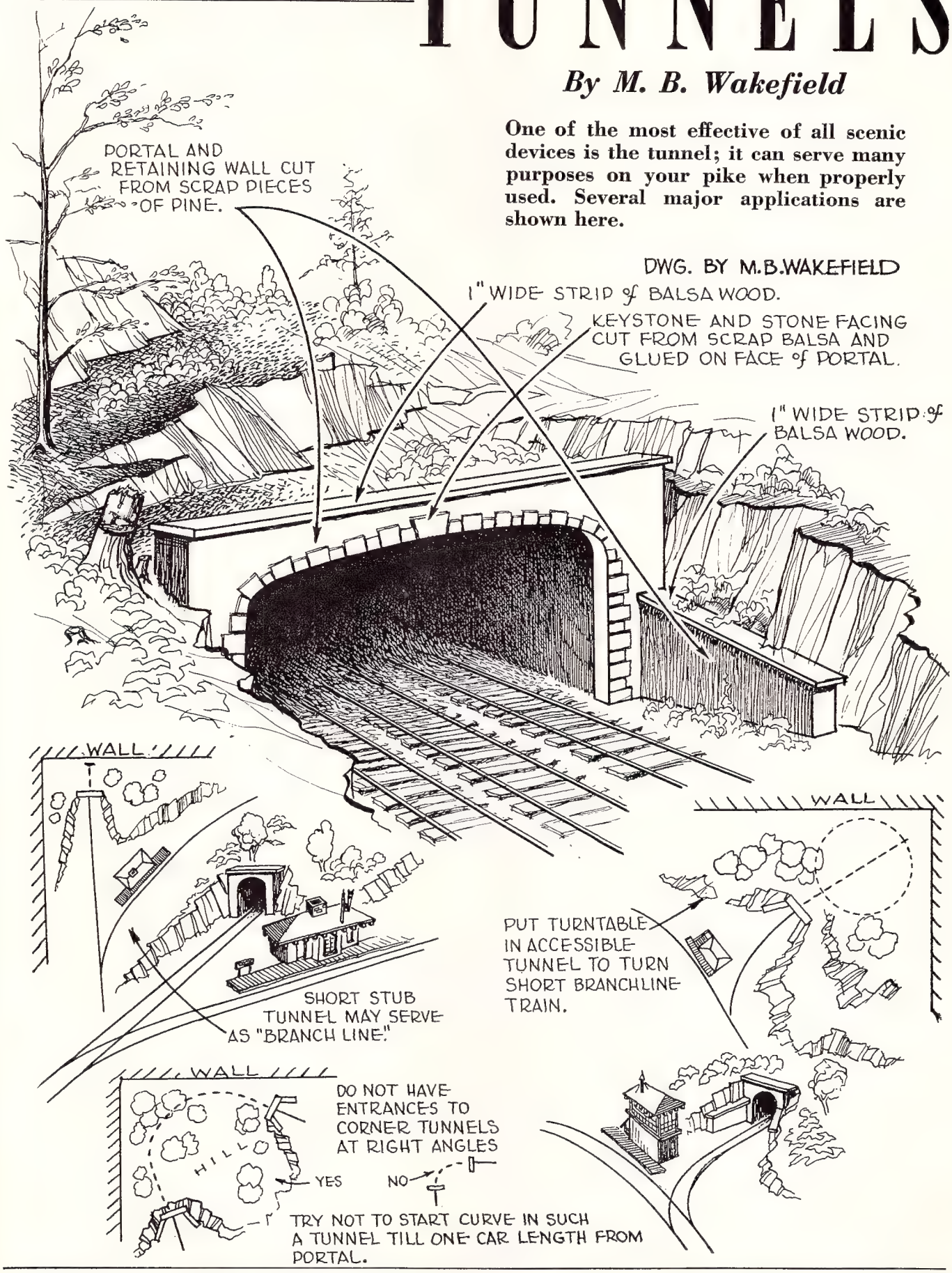
What actually happens is that as the relay closes it connects a DC current which passes through a secondary winding on the solenoid and holds it closed. But this same current, parallel to the solenoid, also passes through the nichrome wire heating and thus stretching it sufficiently to permit the contact switch to open, thus interrupting the DC current and releasing the relay. As a bi-product of this I devised a simple thermo-circuit breaker operated on the same principle and shown in Fig. 5. This has been in operation on the HB RR for several months and has proven satisfactory.

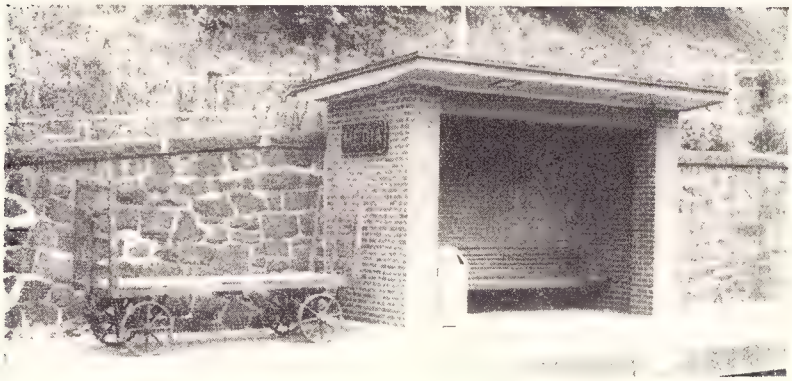

NO. 3
TURNOUT
SCREW INTO PLUNGER
TO SIGNALS
AC
6V
NO. 4
RAILS
SECONDARY RELAY RELAY
12V DC
SPRING-BRASS
NICHROME WIRE
WHEN NICHROME WIRE IS COLD, CONTACT IS TIGHTLY CLOSED. AS CURRENT FLOWS THROUGH NICHROME WIRE IT HEATS AND STRETCHES THUS RELEASING SPRING-BRASS CONTACT AND INTERRUPTING FLOW OF CURRENT AND OPENING PRIMARY RELAY-CONTACT
18V AC
NO. 5
RAILS
12V DC
NICHROME WIRE.
WHEN THERE IS A SHORT CIRCUIT, NICHROME WIRE HEATS UP AND STRETCHES AND BREAKS CONTACT TEMPORARILY.

TUNNELS

By M. B. Wakefield

One of the most effective of all scenic devices is the tunnel; it can serve many purposes on your pike when properly used. Several major applications are shown here.

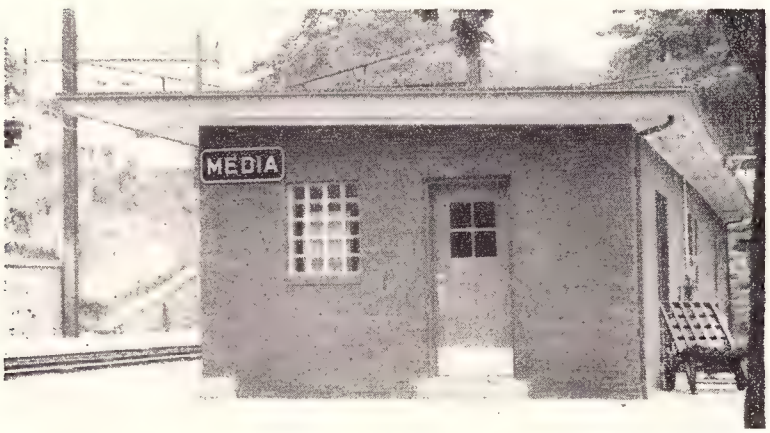

PORTAL AND RETAINING WALL CUT FROM SCRAP PIECES OF PINE.
DWG. BY M.B.WAKEFIELD
1" WIDE STRIP of BALSA WOOD.
KEYSTONE AND STONE FACING CUT FROM SCRAP BALSA AND GLUED ON FACE of PORTAL.
1" WIDE STRIP of BALSA WOOD.
WALL
SHORT STUB TUNNEL MAY SERVE AS "BRANCH LINE."
WALL
PUT TURNTABLE IN ACCESSIBLE TUNNEL TO TURN SHORT BRANCHLINE TRAIN.
WALL
HILL
DO NOT HAVE ENTRANCES TO CORNER TUNNELS AT RIGHT ANGLES
YES
NO
TRY NOT TO START CURVE IN SUCH A TUNNEL TILL ONE CAR LENGTH FROM PORTAL.

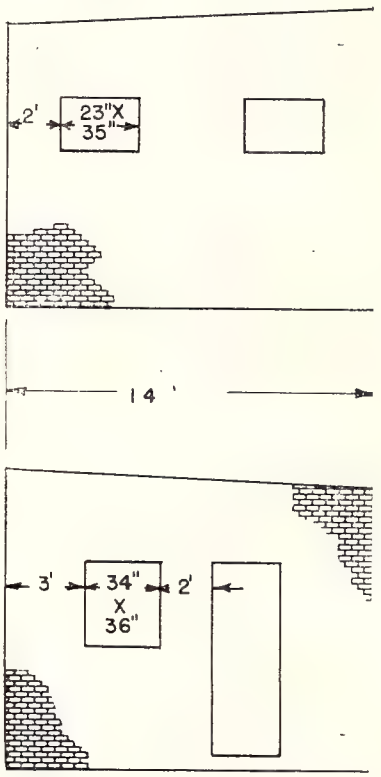


MEDIA STATION

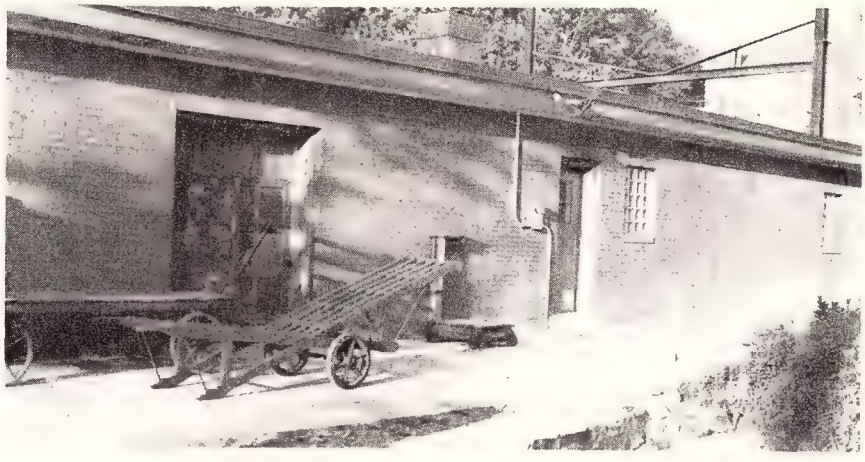
Photos by John Kane Jr.

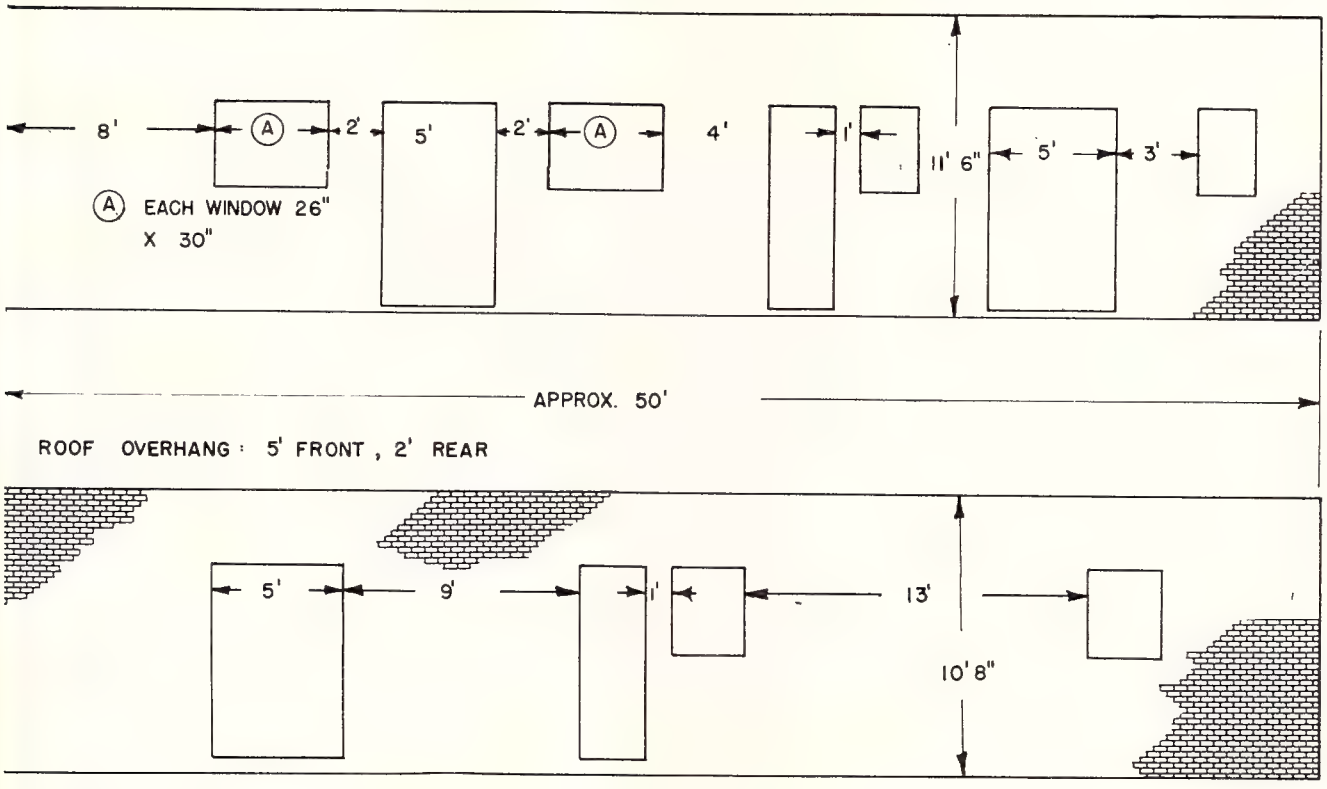
Of modern Design, this station in miniature would form a welcome addition to many layouts; it can be developed in a minimum space.

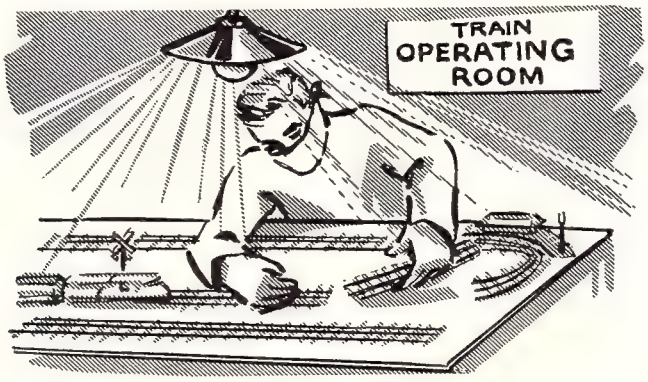




Each year the Pennsylvania Railroad serves countless thousands of passengers with its modern facilities and it is continually striving to improve that service. One of the modern stations along the Pennsy, located in Media, Penna., is shown here in picture form; it is of the latest design and is used for both passengers and freight. The structure is of all brick construction with a flat roof overhanging the sides as a protection against the elements. The unit is readily adaptable to modeling and would take a minimum of space. With sides of brick paper over card stock and a roof finished with sand paper, an authentic model could be quickly built.







The LAYOUT DOCTOR

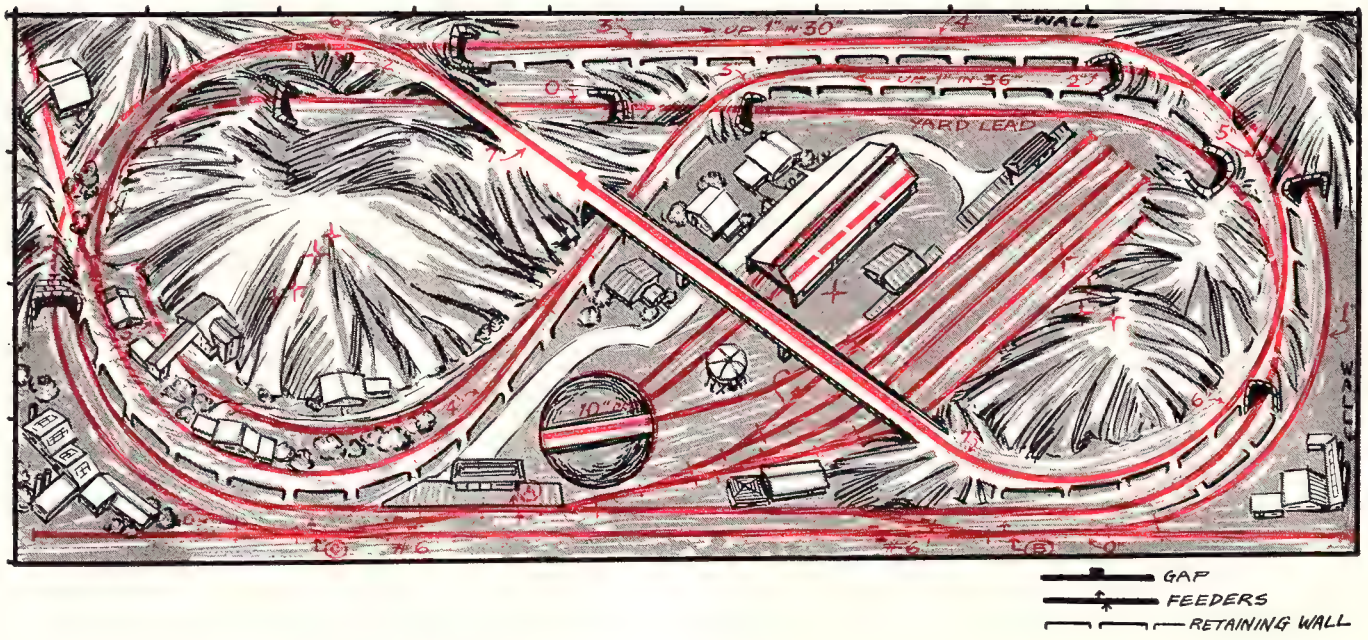
Multi-level mountain railroading in a small space; practical designs suitable for most commercial equipment and known here as Pumpkinvine.

WHEN it comes to getting a lot of multi-level mountain railroading in a small space in HO gauge, I've yet to find a layout idea that works out better than what I call the Pumpkinvine, exemplified by the three designs here. The one big disadvantage is that there is usually very little space for any sort of town, so you have to imagine that they are in that mystic geographic area just off your platform. It is quite difficult, too, to work in many industrial sidings yet have all switches accessible from the front. To offset this there are three levels of railroading, although only the lowest level is not really level; there is a chance for mountain railroading with helper engines, short trains, spectacular mountains with many bridges. It can be spread out over a large area, but I am concerned this month with the Pumpkinvine adapted to small spaces which more model rails have at their disposal.

Let's look first at Layout I, four by ten feet, HO gauge. There is first to be built a level oval yard lead which makes a good test track and can later serve as (1) an interchange track, (2) a layover track, and (3) a continuous running track when you want to keep several trains in motion. The yard with its 4 switches must be carefully located, as should the 10″ turntable. We do have a little space for a village here, but not much. Now the main line is really single track, although the crossovers to the yard lead make it appear to have a passing track or double track at front.

Proceeding to the right, the main line rises on a grade of 1″ in 30″ (3⅓%), curves around and crosses the yard lead, swinging toward the front, parallel with the yards. Then it makes a 270° curve, still climbing to reach the summit where it crosses above the yards on a steel trestle bridge. Then down again, still on 1″ in 30″ gradient, to enter the yard area from the left. Clearly one train can be run on the yard lead oval and another on the main line. With a little more sectionalization a second train could be run in the same direction on the main line. There is no passing siding up in the hills, since switches would prove difficult to reach.

Layout II is basically 8 x 10 feet HO gauge, but with a two by four ell at one end. It should be noted that both ends as well as the front of this layout are accessible which lets you have longer tunnels since you can reach in from the side. Again the level oval yard lead can be carefully located and built first. With the small amount of extra space, notice that some of our switches are #6 so that big road engines can be utilized. The main line now begins to climb to the left, hence it is a reversed version of Layout I. The ell gives us more space for the highest part of the line to wrap around a "mountain" and drift down again to the yard area. Grades are again 1:30 or 3⅓%. Here we have a passing track at Summit (provided *your* left end is accessible), and a few more industries. The three-way switch that serves the cattle pen at Summit can be one of the Mantua units, or if you desire, may be omitted



for simplicity. From Midway down to the yard entrance is in effect double track, although the outer track here is in a tunnel so much that it should be more effectively used as a layover track to make a train disappear for a while. However either this layover track or that portion of the yard lead between crossovers *and* the Summit siding make two passing tracks so that you can run two trains in opposite directions over this road plus maybe a third on the yard lead.

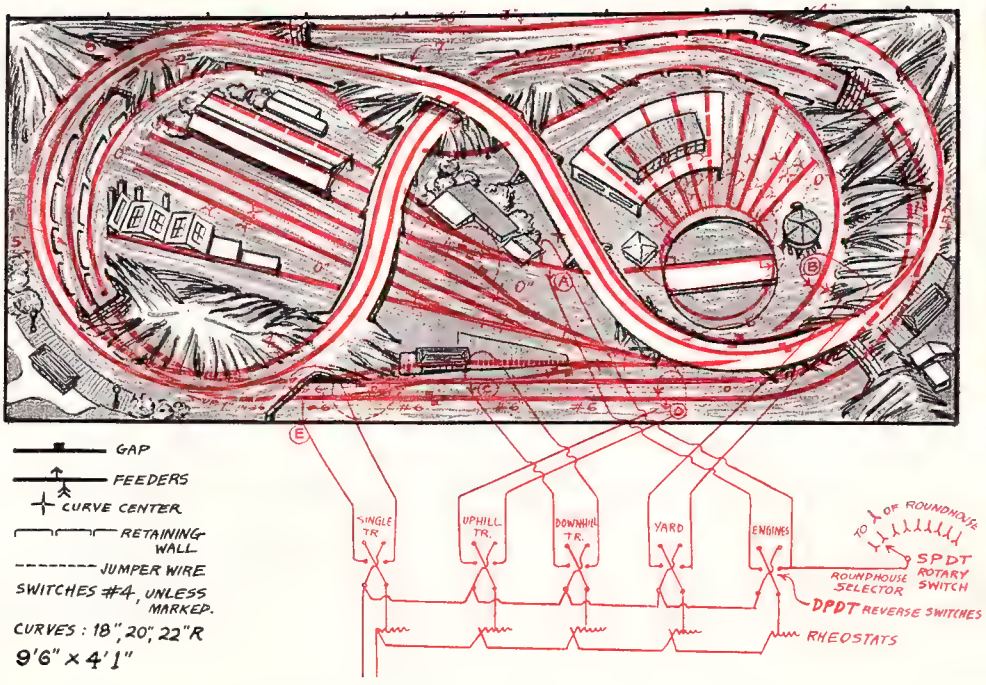
In tinplate, however, it is usually easier to figure your grades in *sections of track* (10″ in both O and S) rather than feet, so that grades often work out to 1:20, 1:25, 1:30, 1:40, etc.

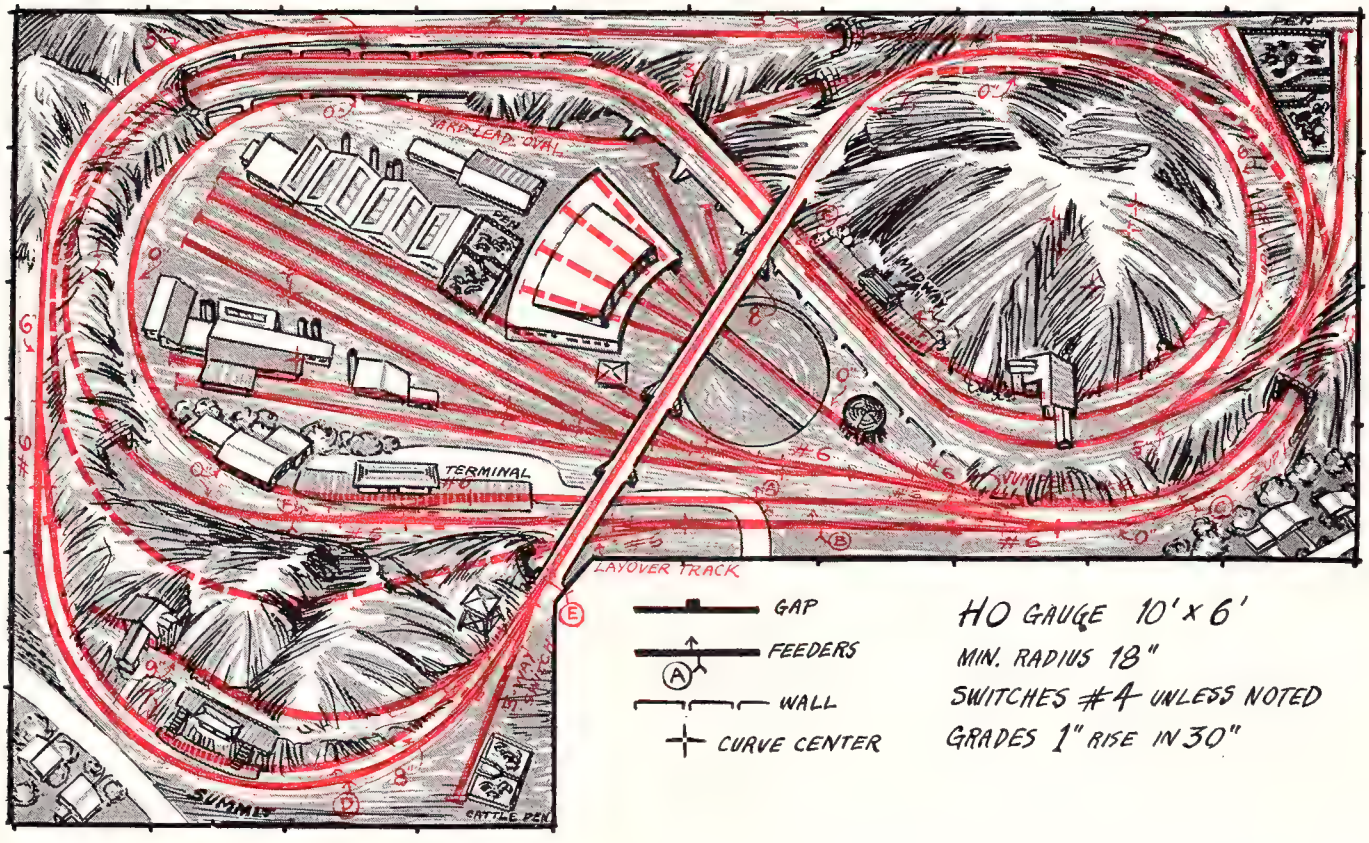
In designing or redesigning a layout the following are helpful, if you can manage them. Ease the gradient off a little on curves, particularly sharp ones if you can spare the length. This is called equalizing the grade so that the extra pull of the curve is not added to the extra pull of the hill. Stretch the top and bottom foot or so of the grade out as much as possible in order to avoid too sharp a *vertical* curve (change of grade).

Be very very wary of changing the rate of your grade in the midst of switches. A vertical curve combined with the horizontal curve and many bumps of a switch can cause a maddening number of derailments. So try to continue your grades or level track *through* the switches before changing the slope. Even vertical curves on a track curve can be a bit tricky, but often we don't have enough room to eliminate them. A crossover between two tracks should be kept entirely on or off the grade, not at the change.

What fun you could have on such a pike putting an extra engine on uphill trains, cutting it off at Summit, then letting it run back down the grade to the yard area where it can help the next train (really the same train) up the big hill.

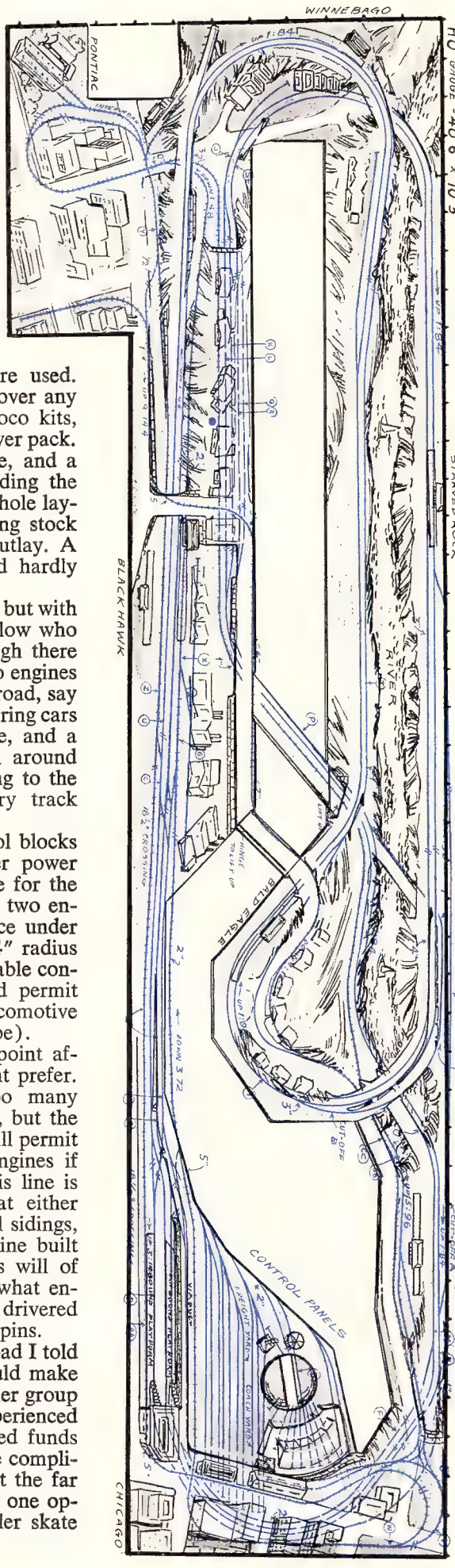
Pumpkinvine Layout III fits in 4′1″ x 9′6″ HO gauge and includes quite a bit of double track running, giving the effect of two passing sidings so that two trains could move in opposite directions on the main line. The yard lead oval, again to be built first, will accommodate a third train. As this layout stands it would be ideal for the man with many steam and diesel engines because of the





Keep It Simple

The first layout undertaking of a new railroad modeler should be small until the necessary experience is gained. Four designs are presented this month which should be ideal for the beginner



TOO many fellows who have barely started in HO (or any other gauge) and who have a large enough space and pocketbook hanker to build at once the "layout to end all layouts," perhaps similar to the oversize Central Illinois shown on these pages. Such an oversize pike is not for the beginner. Construction of the bench work alone would take weeks and a prototype freight car full of lumber. Construction of the track and roadbed would take at least a year of concentrated effort. Wiring and scenery would add many more months to the schedule. And even when you *were* finished you would *not* be finished, in fact you probably *never* could finish because the maintenance problems of track, wiring, scenery, and rolling stock alone on a "layout to end all layouts" would be enough to keep one man busy on a full forty hour week—and maybe more.

Anyone who is just starting out in HO gauge should first build a small layout such as the four pikes presented here. Without the preferred open top framework, and stripped of fripperies such as roadbed, one of these pikes could be gotten into operation in a minimum of time, wired in a jiffy, scenicked in a little more time. Then you would have a railroad that would surely run. What maintenance problems that cropped up would be strictly within reason: if a train derails at one point on a small pike, just think at how many more points it would be likely to derail on an oversize one!

These little layouts, while perhaps too simple by some folks' standards, are ideal for the beginner who wants to get his hand in at HO. The maintenance problems, though less, will be the same ones that occur on a big pike. And solving them will give you courage to go ahead and attack a little bigger layout. A cellar size design such as the Central Illinois should not be tackled first or even second or third.

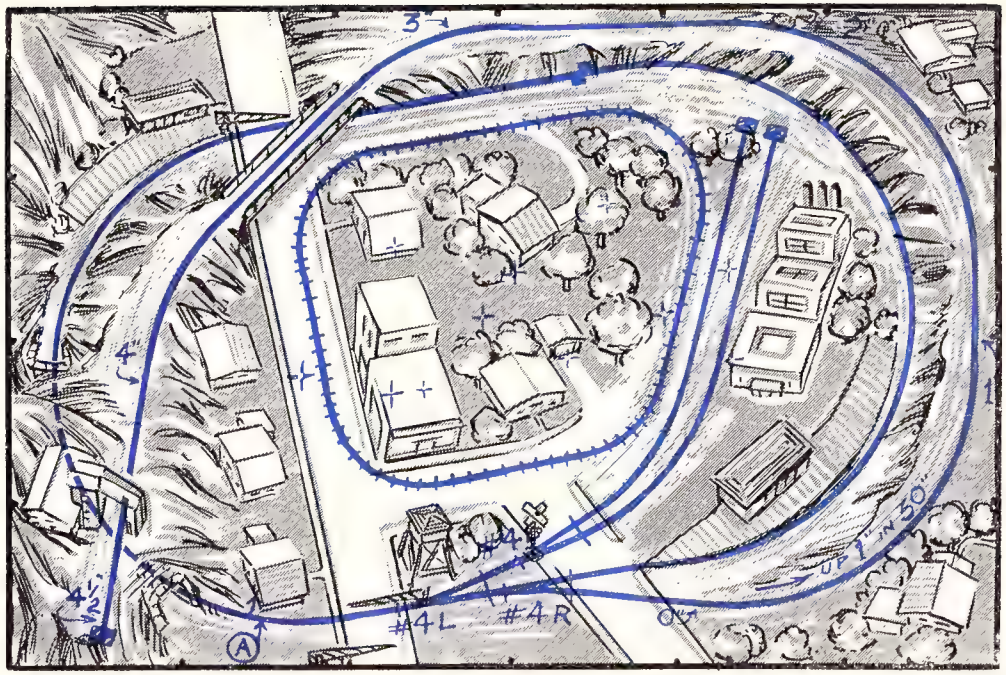
Layout I on a three by five panel, if roadbed were omitted, would cost less than ten dollars for track material (exclusive of trolley line) even if ready-laid track and switches were used. Thirty dollars more would cover any one of several inexpensive loco kits, some car kits, and a small power pack. Including wood for the table, and a few building kits, but excluding the work you put in on it, this whole layout could be built with rolling stock for less than fifty dollars outlay. A trolley and track would add hardly more than another ten-spot.

Layout II is the same thing but with an up-hill branch for the fellow who wants two levels. Even though there is only one control block, two engines could be handled on this railroad, say a Roundhouse Yard Hog to bring cars up and down from the mine, and a diesel switcher to take them around the main line before returning to the yard. Summary of necessary track parts is given.

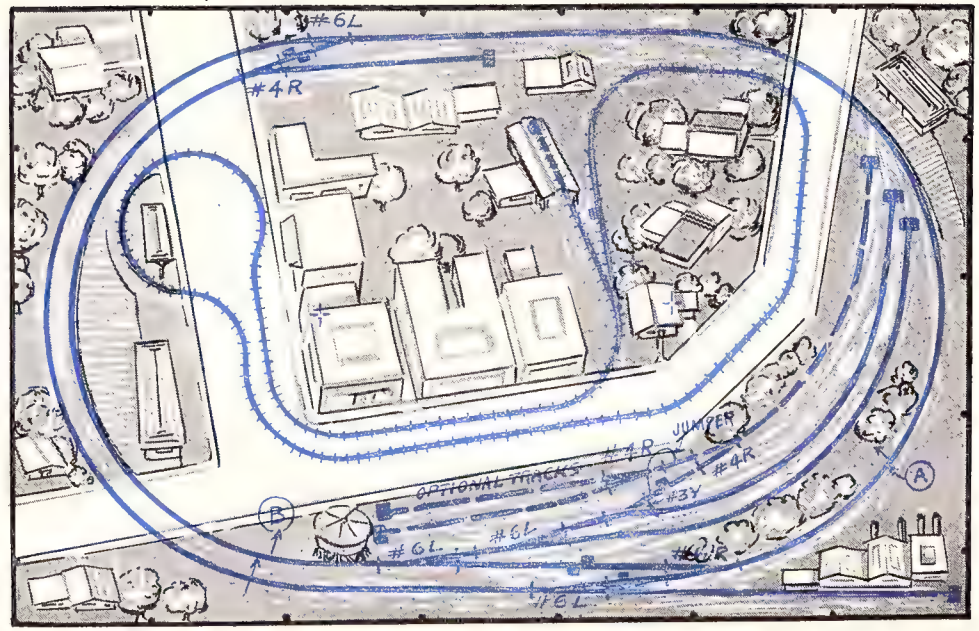
Layout III has two control blocks and so would need a larger power pack with a separate throttle for the yard lead so you could have two engines actually moving at once under separate control. The full 24" radius of the main line widens the table considerably to 4'6" but would permit the operation of any kit locomotive on the market (or likely to be).

Layout IV is a point to point affair which some fellows might prefer. There is not room for too many switching tracks at each end, but the turntable and enginehouse will permit your having two or three engines if you want. The beauty of this line is that it could be extended at either end, either to more industrial sidings, or to connect with a main line built later. The sharp 12" curves will of course put a strict limit on what engines you can run—any four drivered engine should take these hairpins.

The Central Illinois, the road I told beginners not to tackle, would make a good road for a club or other group or possibly for a much experienced model rail who had unlimited funds and time. A great deal of the complicated trackwork is located at the far right end within the reach of one operator without having to roller skate down to the left end.

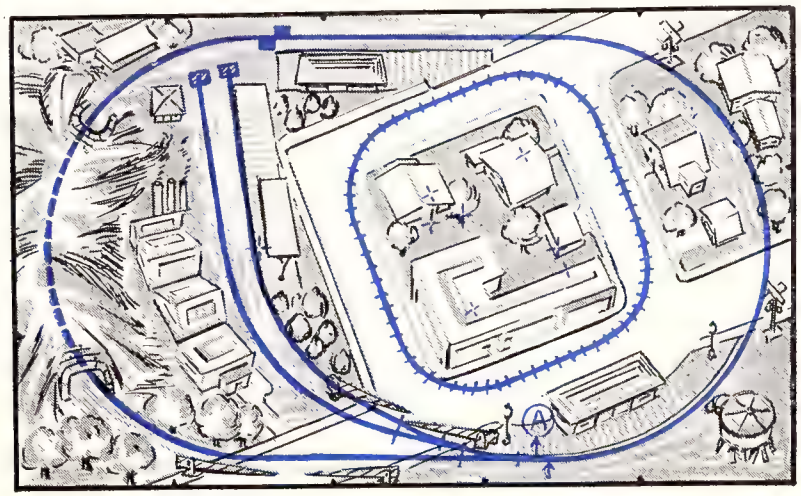


LAYOUT II 4x6′ space, HO gauge; trolley line optional. Required: 2 #4 left hand switches, 1 right; 10 lengths flexible track; 13′ straight roadbed; 1 ¾ circles 18″ radius roadbed.

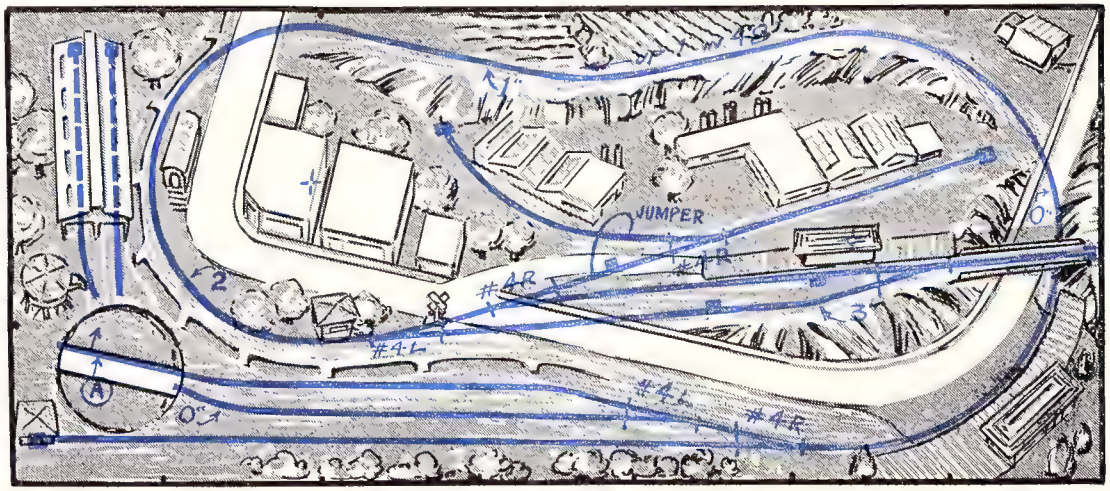


LAYOUT III 4½x7′ space, HO gauge with optional trolley line. Required: 4 #6 left hand switches, 1 right hand; 1 #4 right; 11 sections flexible track; 11′ straight roadbed; 1 ¼ circles 24″ radius, ¾ circles 22″ radius roadbed. Optional tracks not included. Note: Control sections A and B may be connected to one controller if it is not desired to run two trains at once.

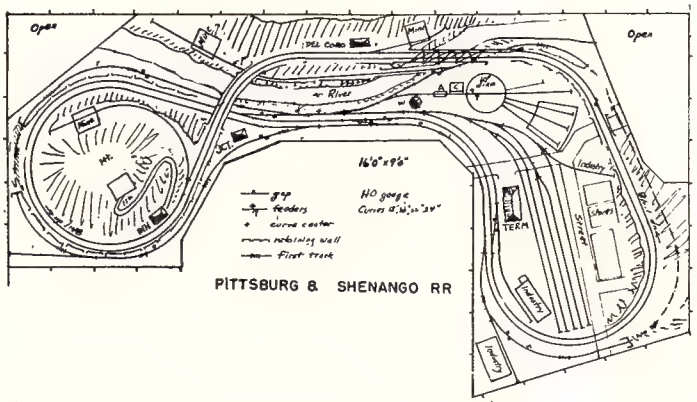
LAYOUT I 3x5′ space, HO gauge; trolley line optional (6″ radius curves). Required: 2 #3 right switches, 6 sections flexible track, 6′ straight roadbed, 1½ circles 16″ radius roadbed.



LAYOUT IV 3x7′, HO gauge, point to point operation only, two levels. Required: 3 #4 left hand switches; 11 flexible track sections; 22 feet straight roadbed, ¾ circle 16″ radius, ¾ circle 12″ radius roadbed.

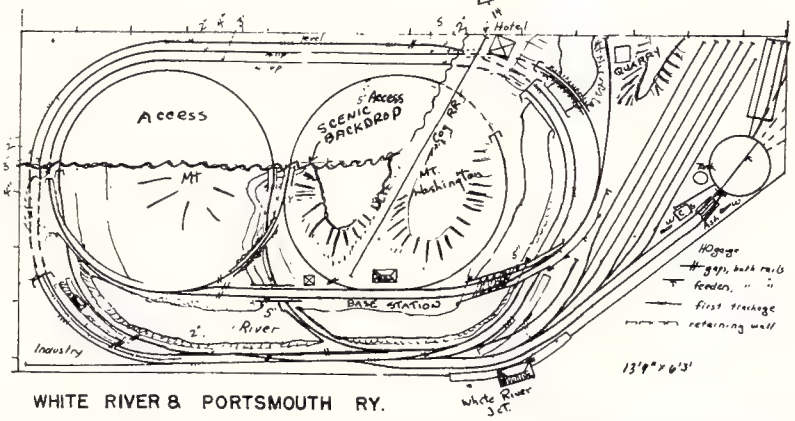


LAYOUT PAGEANT



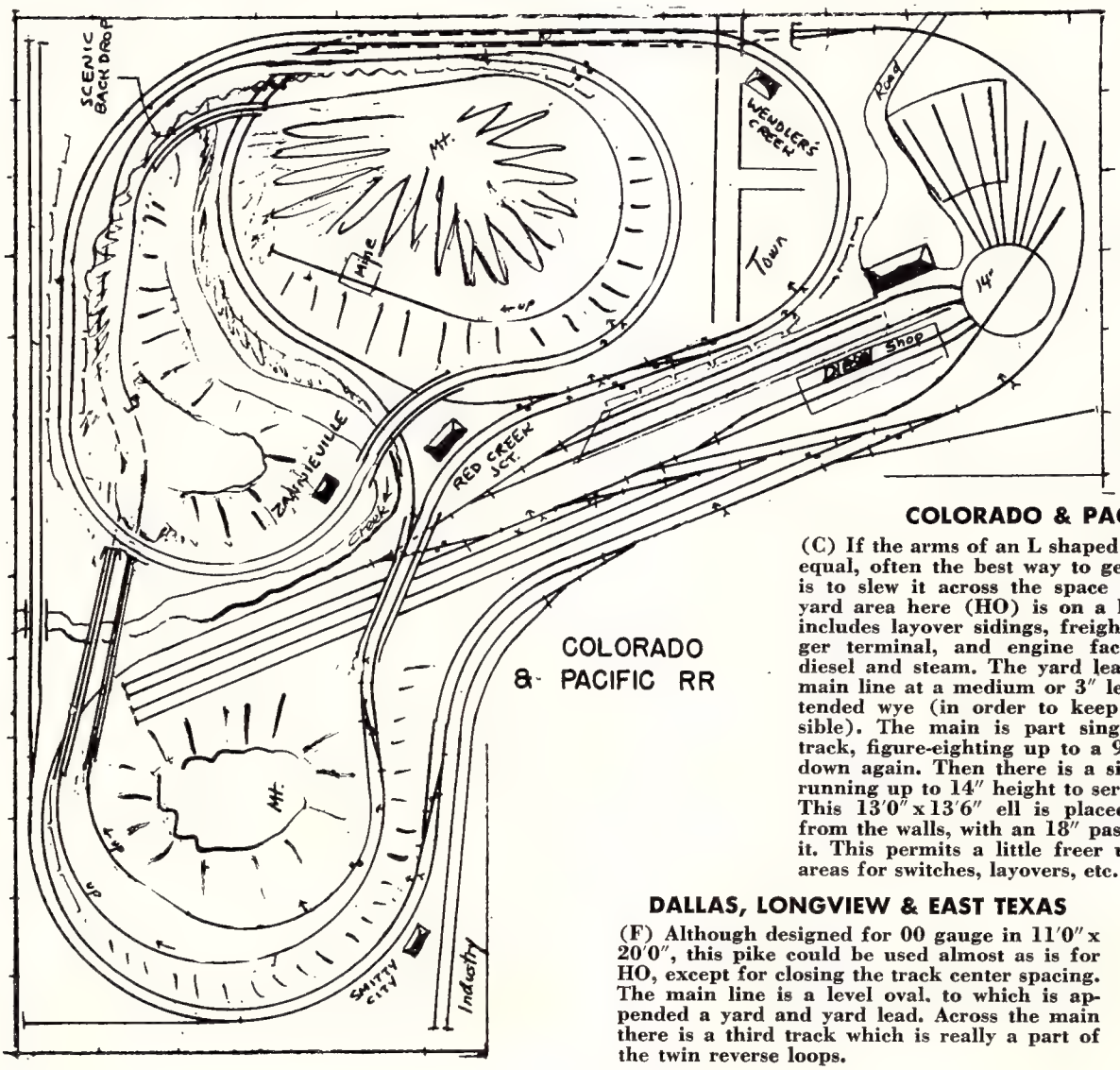
PITTSBURG & SHENANGO

(A) In a 16 x 9 ft. space, this layout features no ducking under to reach important switches. It is a double track figure eight on two levels, with two reverse loops, disguised as branch lines, added. If the single main line crossover were omitted, there would be no reverse loops for electrical purposes, which would simplify cab control wiring. If a left-hand (facing point) crossover were required it could be located at Delcoro or Term, but its functions are now taken care of circuitously by the reverse loops.



WHITE RIVER & PORTSMOUTH

(B) HO gauge in a space 6′3″ x 13′9″ features an initial flat oval which serves as the yard lead, a grade up to an upper level then down again on the main line, two reverse loops, and a wye for turning helper engines at the top of the hill. The scenic backdrop hides the confusion of trackage along the back and the emergency access spaces there, while the river helps justify the parallel lines across the front. The lower reverse loop cutting across the river and down a narrow canyon looks like a branch line.



COLORADO & PACIFIC

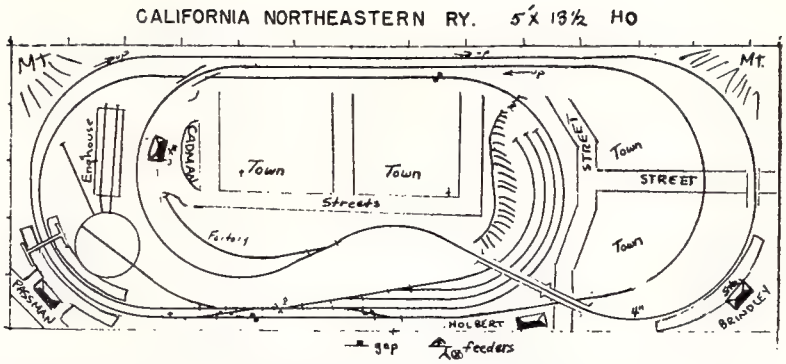
(C) If the arms of an L shaped space are about equal, often the best way to get a good layout is to slew it across the space diagonally. The yard area here (HO) is on a lower level, and includes layover sidings, freight yards, passenger terminal, and engine facilities for both diesel and steam. The yard lead runs into the main line at a medium or 3″ level, with an extended wye (in order to keep switches accessible). The main is part single, part double track, figure-eighting up to a 9″ elevation and down again. Then there is a single track spur running up to 14″ height to serve a mine head. This 13′0″ x 13′6″ ell is placed entirely away from the walls, with an 18″ passageway around it. This permits a little freer use of the back areas for switches, layovers, etc.

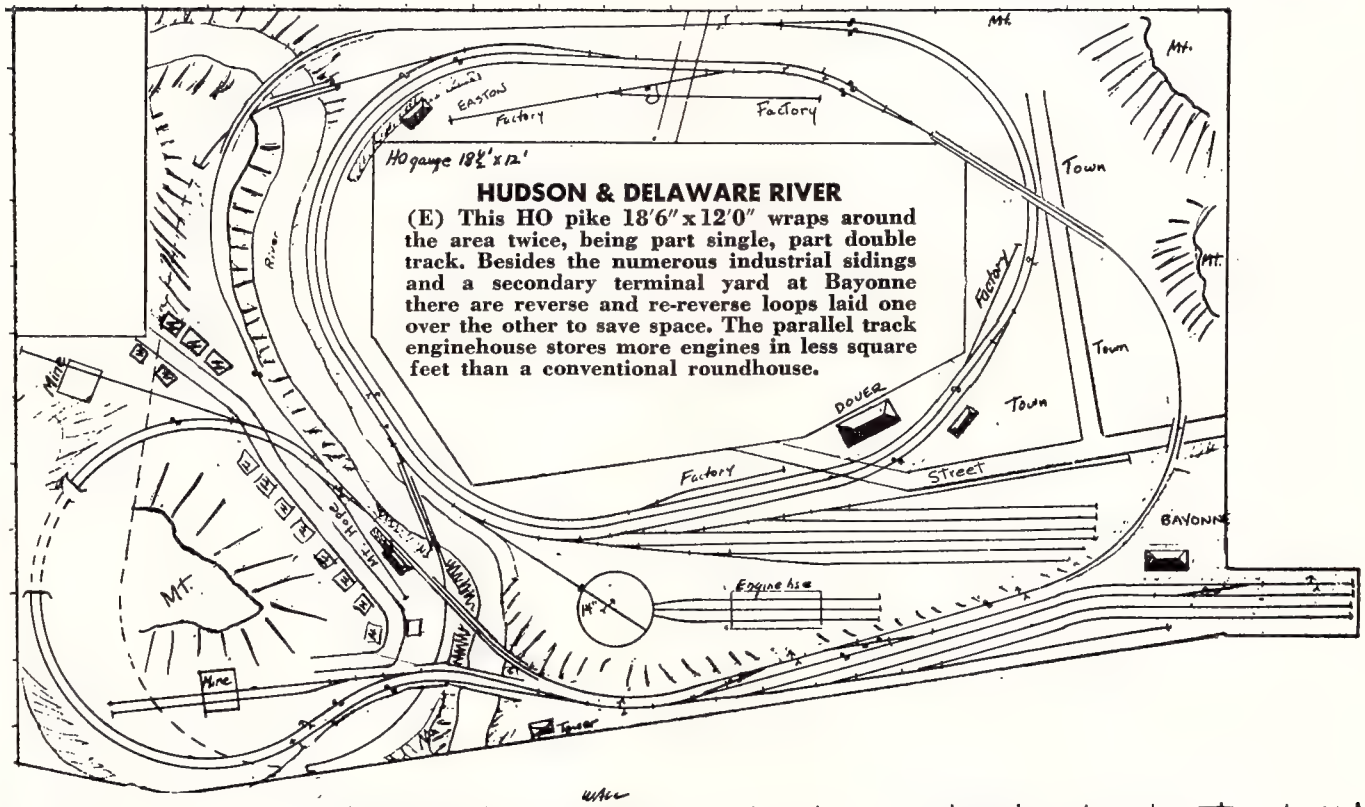
DALLAS, LONGVIEW & EAST TEXAS

(F) Although designed for 00 gauge in 11′0″ x 20′0″, this pike could be used almost as is for HO, except for closing the track center spacing. The main line is a level oval, to which is appended a yard and yard lead. Across the main there is a third track which is really a part of the twin reverse loops.

CALIFORNIA NORTHEASTERN

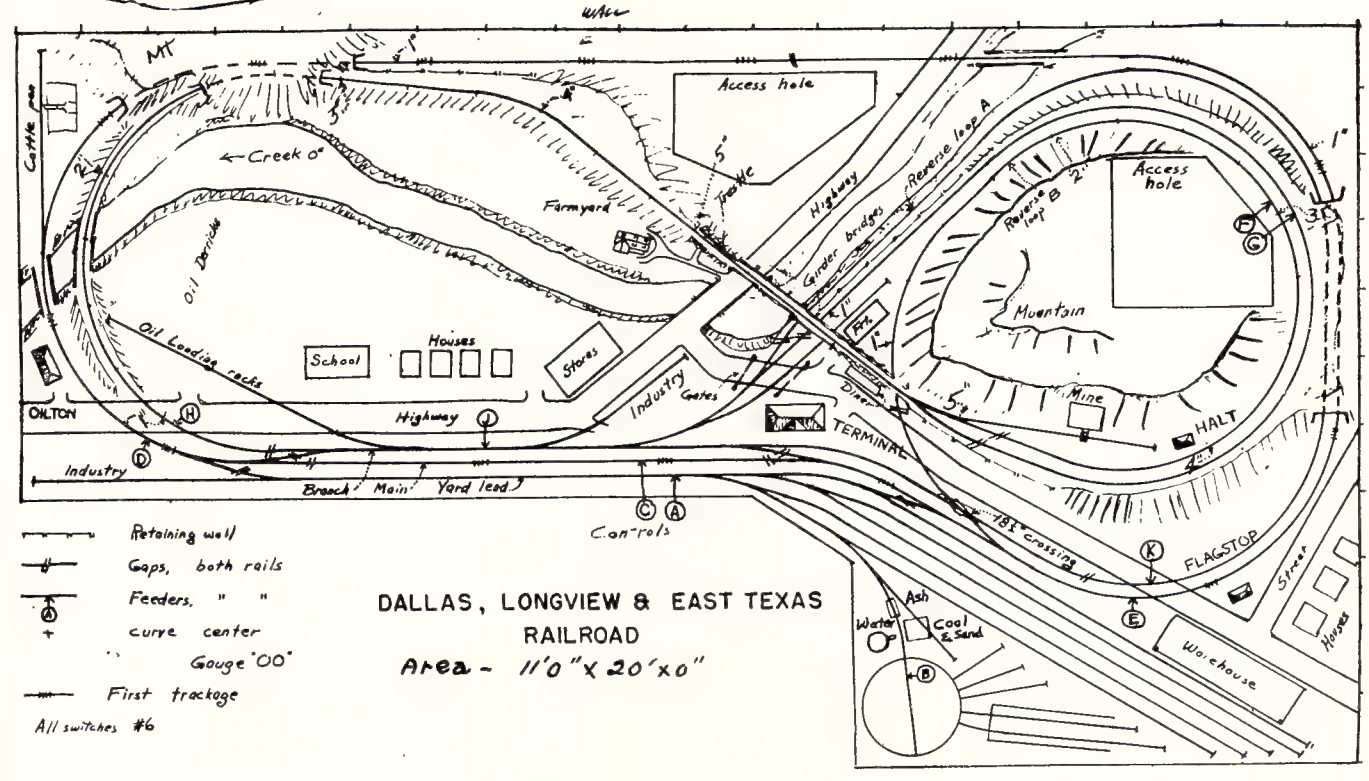
(D) Extreme simplicity of trackage marks this 5′0″ x 13′6″ HO pike on which two trains may be run at once: one on the oval yard lead, the other on the inside-out-figure eight main line. If two towns were not required, the one on the higher level could be made into mountains (with mine siding), the lower level one into farmland.





HUDSON & DELAWARE RIVER

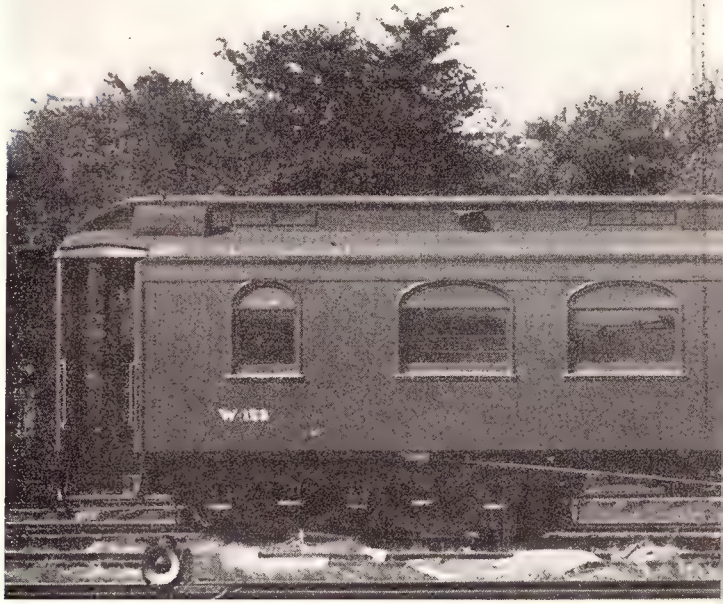
(E) This HO pike 18′6″ x 12′0″ wraps around the area twice, being part single, part double track. Besides the numerous industrial sidings and a secondary terminal yard at Bayonne there are reverse and re-reverse loops laid one over the other to save space. The parallel track enginehouse stores more engines in less square feet than a conventional roundhouse.



DALLAS, LONGVIEW & EAST TEXAS RAILROAD

Area - 11′0″ x 20′x0″

WOODEN DINING CAR



For use with new or old equipment, this dining car can easily be duplicated in any gauge. For short radius work, the length can be cut down.

Unavailable in kit form, vestibuled wooden diners such as the one shown here can still be found in revenue service. You'll find this economy model a challenge to your modeling abilities.

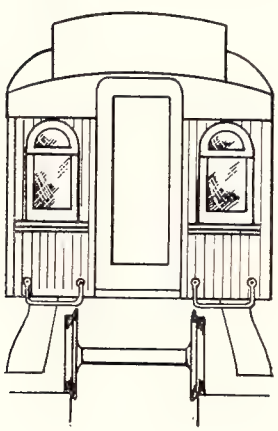
Next to riding an engine cab, or maybe a caboose; nothing is as delightful to the model railroad fancier as having dinner in a railroad dining car.

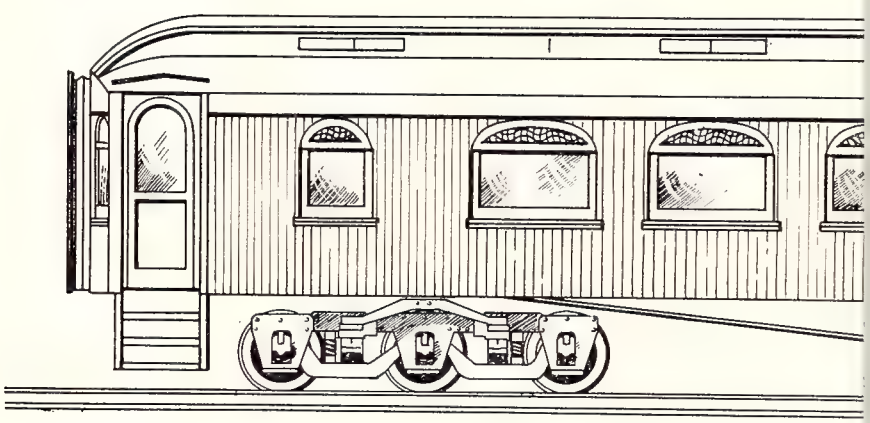
Indeed, some of the fondest memories of rail travel are those that have taken place in the dining car. There are the delightful hostesses on the New Haven, New England boiled dinners on the Boston & Albany, the terrific pot of coffee on the B&O, and turkey on the Kansas City Southern. Every train worthy of its name has to have dining facilities at least part of the way and a diner should be on the roster of every trunk line model railroad.

Such a car needn't be of the latest manufacture. If your railroad has plunked down a big pile of cash for a new streamliner, less diner, perhaps an old one can be repainted to match and used on just that stretch of the road where the passengers would require something to eat. In this way, one diner might serve several trains. Or this diner could be the spare used only when the streamlined or conventional "standard" car is out of service. And, lastly, the car can be relegated to maintainance of way service, supplying hungry workmen with three squares a day.

The car as shown measures over 80′ and so is not suitable for HO

Plans full size for HO





MW Dining Car as used on the New Haven.

lines having less than 30″ radius although it can negotiate down to 24″ if necessary. Long cars weren't meant for sharp curves. Where railroads have sharp curves they use special equipment but you won't see 60′ streamlined Pullmans and other "stubby" cars.

Plans are shown full size HO gauge and it is recommended that modelers in other gauges have the plans photostated to the desired size. To prepare this drawing for the photostat house, mark off accurately 80 scale feet in HO gauge on the drawing. For an O gauge stat, figure out that 80 O gauge feet would measure 20″ long, which is the size that the 80 HO feet must be enlarged to. TT gauge, by way of comparison would be reduced to only 8″.

The stat you get can be either a negative or a positive. The negative will have white lines on a black background. You can work from this drawing. You can also have a positive made which is merely duplication since you need the negative to make a positive. Costs more, too.

Construction

The Nov. 1949 issue of Railroad Model Craftsman shows the manner in which the sides are built up in sandwich fashion, using bristol board or thin precision cut bass wood sheet.

Sandwiching the wood adds strength to the sides and also permits easy manufacture of window sashes, doors, etc. The outermost layer should be finely scribed. Other required wood parts are available at all hobby shops worthy of the name, along with the necessary hardware. See the box for a complete list of parts required.

The ends are built up in the same manner as the sides and it is recommended that they be reinforced with uprights made of ⅛″ or even 1/16″ bass or pine sticks.

Steps are placed on the car at only one end, the opposite end requiring only a two or three rung ladder.

DINER PARTS, REQUIRED

1 sheet scribed bass, ½/32″ thick

1 sheet plain bass, 1/32″ thick

1 floor section

1 monitor roof section

1 set steps (2 required)

1 pr. diaphragms

1 pr. couplers (your brand)

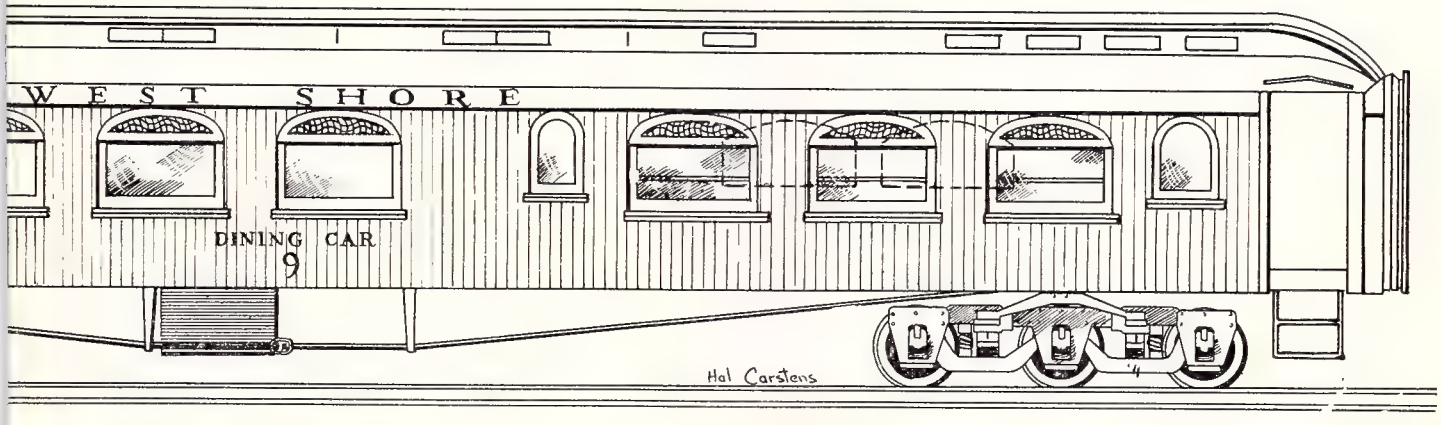
1 pr. 6 wheel trucks

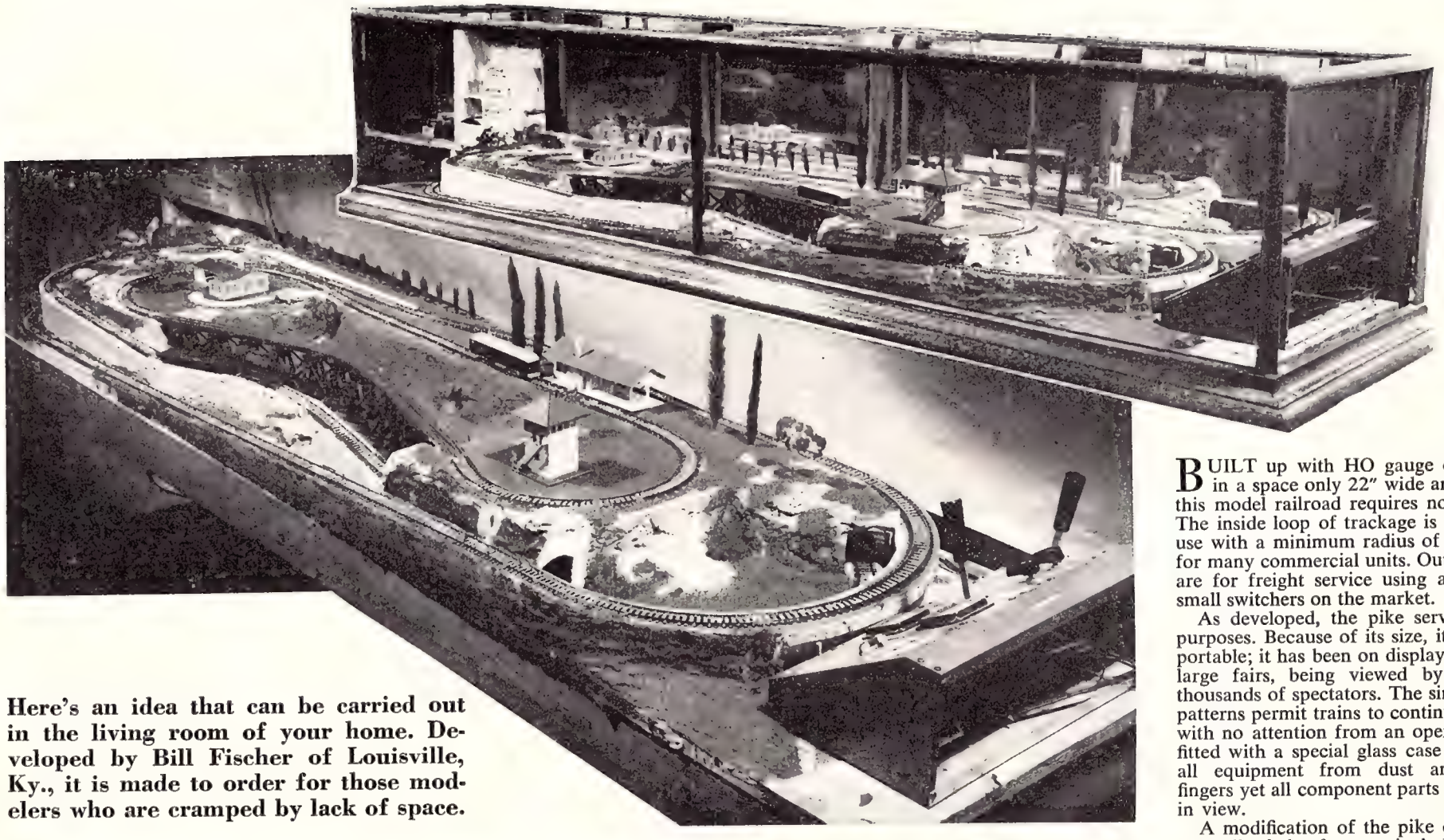
1 smokestack

Roof ventilators

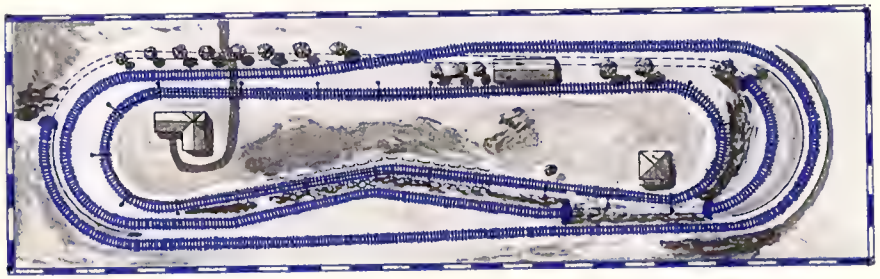
Underbody detail

Paint, cement, decals, acetate for windows OPTIONAL: interior detail available in HO & O.





Here's an idea that can be carried out in the living room of your home. Developed by Bill Fischer of Louisville, Ky., it is made to order for those modelers who are cramped by lack of space.



LAYOUT WITHOUT SWITCHES

BUILT up with HO gauge equipment in a space only 22″ wide and 7′ long, this model railroad requires no switches. The inside loop of trackage is for trolley use with a minimum radius of 6″; ample for many commercial units. Outside loops are for freight service using any of the small switchers on the market.

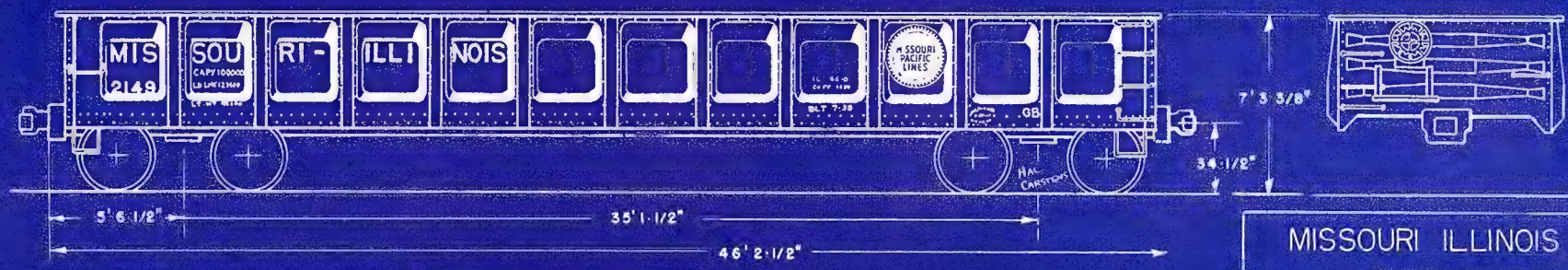
As developed, the pike serves several purposes. Because of its size, it is readily portable; it has been on display at several large fairs, being viewed by countless thousands of spectators. The simple track patterns permit trains to continuously run with no attention from an operator. It is fitted with a special glass case to protect all equipment from dust and nimble fingers yet all component parts are clearly in view.

A modification of the pike could contain all of the features included in this display however it could be cut down in length and the controls placed along one side of the layout. It would then be entirely suitable for any home regardless of its size. Layouts such as this are ideal for the armchair railroad enthusiasts; there can be no complaint of lack of space.

FULL SIZE HO GAUGE
3.5 MM = 1 FT

GB

MISSOURI PACIFIC LINES



RAILROAD MODEL Craftsman

PHOTO DATA BLUEPRINT
11

MAY 1953

DATA ON BACK

MISSOURI ILLINOIS RR.

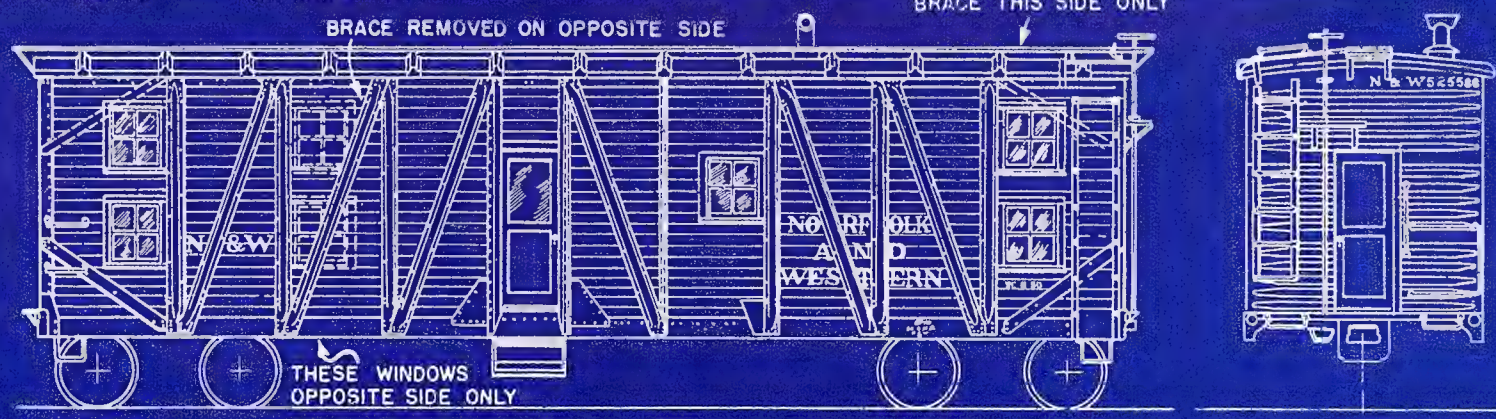
50 TON GONDOLA
SERIES : 2100 - 2199
ALSO
MOPAC : 22000-23774
IGN : 15100 - 15274
STLB&M : 15275 - 15624

FULL SIZE HO GAUGE 3.5 MM = 1 FT.

MWX

BRACE REMOVED ON OPPOSITE SIDE

BRACE THIS SIDE ONLY



THESE WINDOWS
OPPOSITE SIDE ONLY

0 1 2 3 4 5 10 15 20 25
FEET

N&W RY PRECISION TRANSPORTATION

RAILROAD MODEL Craftsman

PHOTO DATA BLUEPRINT
10

MAY 1953

NORFOLK & WESTERN RY

BUNK CAR

DATA ON BACK

50 TON STEEL GONDOLA

MISSOURI, ILLINOIS R.R. (MOPAC)

PHOTO DATA BLUEPRINTS #11

SERIES: MI: 2100-2199
MP: 22000-23774
IGN: 15100-15274
STLB&M: 15275-15624

BUILT: 1937, 1939, 1942

BLDRS: Mt. Vernon Car Co.
Pressed Steel Car Co.

HANDBRAKE: Ajax
WHEELS: 33" cast iron
AV. LT. WGT.: 45, 700 lbs.
CAP'Y: 1634 Cu. Ft.
AAR MECH. DESIGNATION: GB
COLORS: WHITE LETTERING, CAR BLACK

Bunk Car For Camp Service

NORFOLK & WESTERN RAILWAY

PHOTO DATA BLUEPRINTS #10

AAR MECH. DESIGNATION: MWX

SERIES: 525500-525999
(NOTE: Nos. include all bunk cars of which there are about 65 in service.

REBLT FROM BOX CAR: 1945

LT. WGT: 53500

COLORS: BLACK LETTERING ON GRAY BODY

MISC: NOTE WINDOW SCREENS

CAR SLEEPS TEN IN 5 DOUBLE BUNKS HAS 10 LOCKERS, 2 TABLES, 4 WASH BASINS

BOSS TRUNK LINES

(*continued from page* 13)

the roof is covered with strips of tar paper made of Kleenex. Base of building is a wooden block carved to resemble stones with recesses for the cellar windows. Porch posts are wood turnings; however, they could have been commercial fittings as used in ship modeling. Floor of the porch is made up of separate boards, similar to the mill and both structures have windows glazed with slide glass. Rain gutters are of shim brass with a spout of shim brass drawn into a tube through a draw plate; the whole assembly was soldered together. The pump just outside the store is a brass turning complete with handle, spout and other details soldered in place; it is finished in green. A tiny out-house, back of the store, is made of card stock; the door has been left open so that a miniature Sears Roebuck catalog is plainly in sight. Both the store and outhouse are painted white, finished in green trim; all signs are hand lettered.

The proprietor of the store is an alert merchant who stays open in the evening to catch the late trade. Naturally he must have lights; access to the interior lighting is through a removable roof. The merchant also displays an assortment of his wares on the store porch; one of these is a basket of cabbages. The basket itself is wood with paper bands and wire handles; cabbages are pieces of baby's breath dyed green. Two sacks of potatoes lean against the front window sill, and a rake, hoe and shovel are propped against the center porch post. The tools are metal soldered together and fitted with wooden handles. The man is sitting on an empty crate made of separate pieces of wood; the figure is a Weston miniature, repainted. Although not visible in the photos, the figure has plastic glasses with frames painted in position and wire bows over his ears. The young boy pushing the bicycle in front of the store is a homemade figure.

The bald-headed man who is perpetually rocking on the mill porch and his faithful dog are also homemade; these figures have tin bodies and heads with wire arms and legs. These are covered with solder, carved with a modelers knife and painted. The rocking chair is made of tin and wire soldered together; bicycle is entirely of metal except for the seat.

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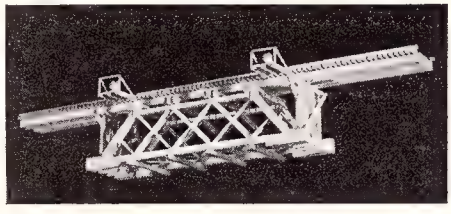
"Foreground" Bridge Kit
OF THE
DIAMOND STACK DAYS



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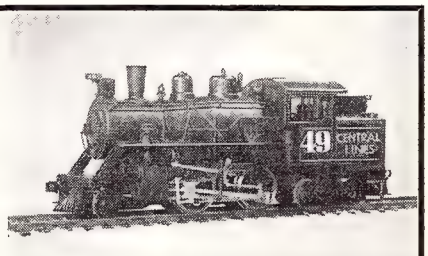
Locomotive Kit



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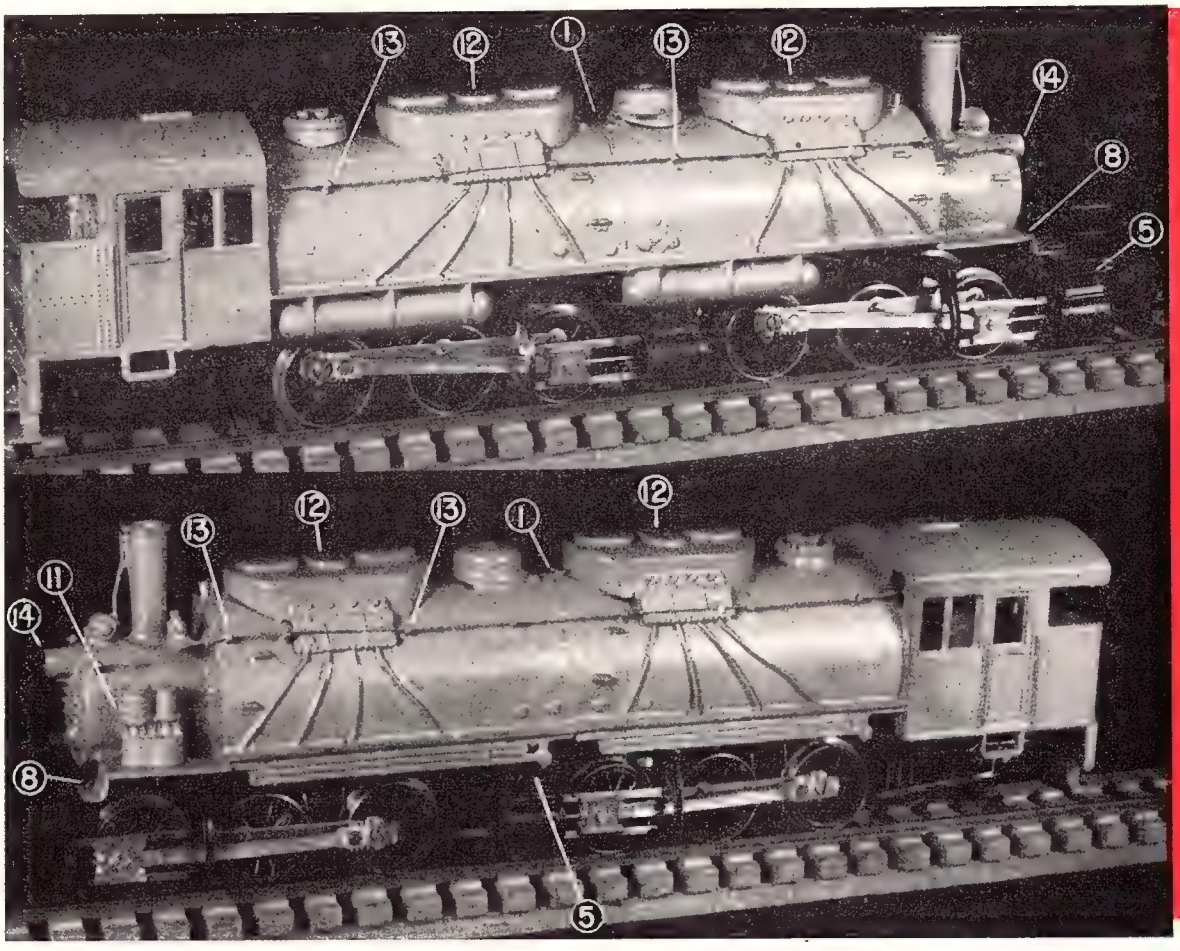

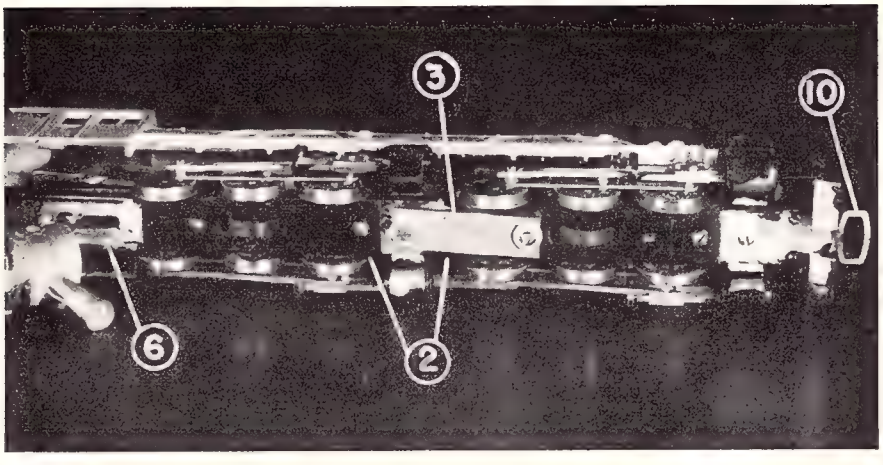

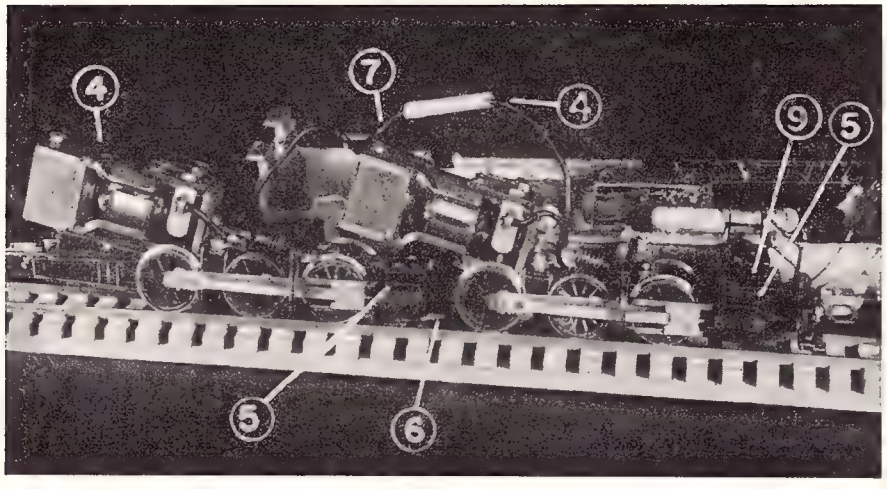

Roundhouse Yard Hog kits combined to form an inexpensive articulated found on logging roads.

1. Cut cab from one yard hog superstructure casting, cut smoke-box from another. Smooth edges so they can be butted together in a straight line. Tin inside with solder, using Sal-Met flux, then solder halves together. Check for straightness, then put reinforcing strips of 1/32" brass 1/2" wide and 1" long inside the superstructure, along bottom edges, fastening with 00-90 screws run through from outside.
2. Cut off front of rear chassis 5/16" in front of cylinder block. Round off corners to about 1/8" radius; cut off rear of front chassis 3/16" back of rear axle center line.
3. Draw bar cut from 1/16" brass, 3/8" wide, 1 5/16" long. Draw bar holes are spaced 1 1/8" apart, and should be drilled to clear a bit of tubing used for spacer on a 2-56 screw. Use cylinder mounting screw to attach to rear chassis; 2-56 x 3/8" screw replaces rear keeper plate screw, to attach drawbar to front chassis.
4. If front chassis rolls very smoothly, engine may be operated with just one motor, the rear six wheels only powered. For maximum power, use both motors with the rear one mounted in conventional manner. Front motor must be attached by screw up into the unused 2-56 tapped hole near its front. Hold this motor in place (with wheels in frame), and with a bent pin scriber mark site of hole.

5. Cut off front cylinder saddle 1/16" above tops of valve chests. Cut off rear cylinder saddle 1/16" below tops of valve chests.

6. Enlarged superstructure is attached to frames at the front of rear chassis so that front chassis can swing, going around curves. Since front motor is in way of usual mounting via cylinder mounting screw, take a piece of 1/32" brass 3/8" wide and drill and tap a 2-56 hole centered near one end. This goes back 7/8" to clear back of motor, then up 1", then forward again. This must be filed out to clear rear yoke mounting screw. After this has been made to fit and to support superstructure with tanks and cooling coils barely clearing valve chests, drill down through top of superstructure with a clearance drill until it dimples this bracket. Then use these marks to continue with a tap drill, and tap out holes. Any size flat head screws will do, with heads countersunk into top of tank. Should be at least two on each side of joint in tank.

7. Wire each chassis as per Roundhouse directions and parts furnished. Then solder a wire between the two pickups so that really four wheels are picking up for both motors at the same time.

8. Cut 1/32" brass to extend running boards forward to front of smokebox, and solder these in place using Sal-Met flux. Solder small brass angles to front of these for steps.

9. Another piece of 1/32" brass, drilled and tapped 2-56 in its center is atop the front pair of cylinders. This should also be drilled to accommodate the six posts of the front railing. Screw up through front cylinder block may run into a small block of metal for a tool chest. Another angle soldered to front of this piece forms a step. Railing is stretched copper wire.

10. Mount couplers. Mantua coupler is easily mounted at front by just drilling a third hole midway between present holes, slipping this over stud. Coupler (loop only) stays in place when keeper plate is screwed down. To attach rear coupler, drill and tap 2-56 up into bottom of coupler pocket right where the little stud is. After superstructure is finally in place, run a 2-56 screw up through this hole and through rear hole of Mantua coupler loop. (Rear coupler must be removed to dismount superstructure.)

11. Airpump must have about 1/32" filed from its bottom in order to clear front running boards. A 00-90 screw holds it in place.

12. Top of superstructure could be left with all six domes but these were removed and Budd sand domes, pop valves and a warren bell installed. A flamed-shaped rotary cutter in an electric hand grinder will remove domes and sand pipes, or you can use a jewelers saw. For correct sand pipes, drill running boards and bottom edges of domes. If sand domes are for a smaller diameter boiler, place in a smooth jawed vise and squeeze slightly to spread the "wings."

13. Use any handrail posts to put handrails along tank and smokebox.

14. Don't tamper with headlight, you'll note it's drilled right on through and so is rear one; someday you can put a bulb inside the engine and run lucite rods into each light and have working headlights.

New Features Galore

Each month at least one new feature will be added to the Editorial pages of Railroad Model Craftsman: all purpose features designed to increase your building pleasure. Each issue of Railroad Model Craftsman now includes the following modeling information.

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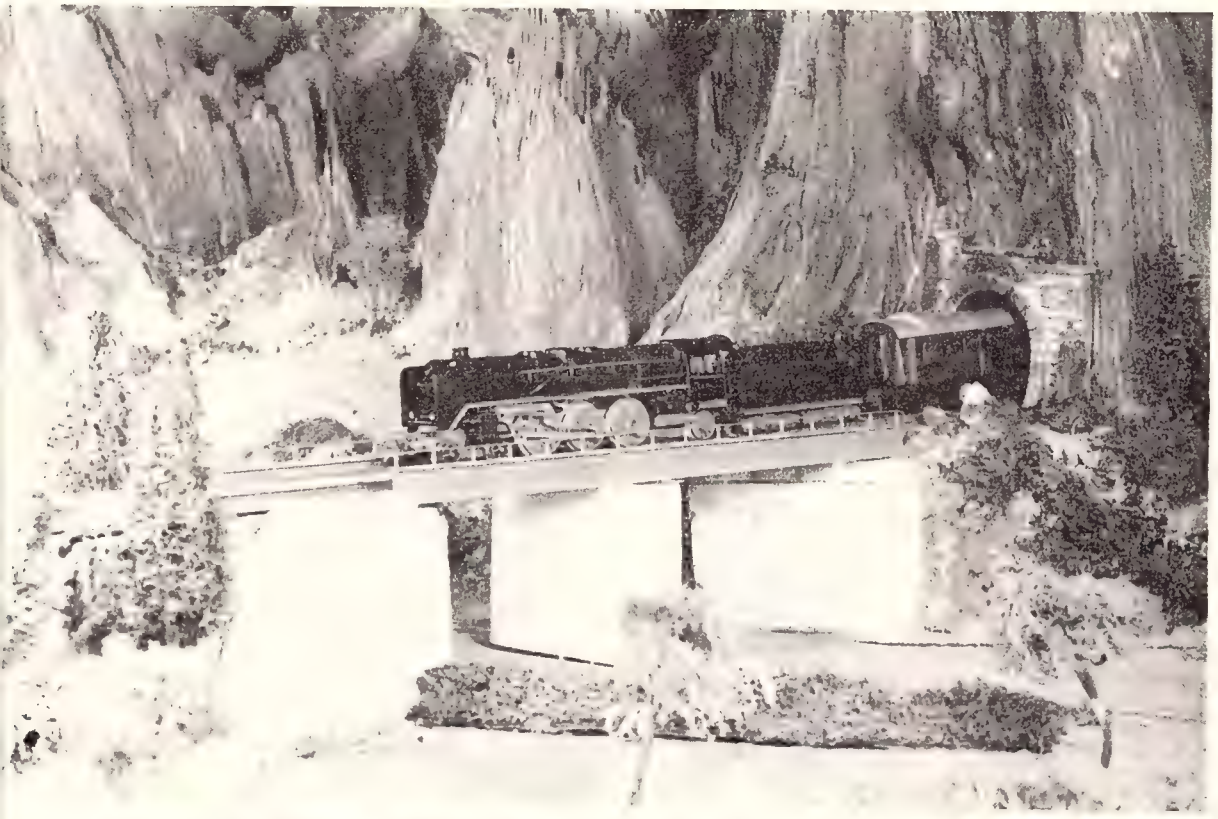

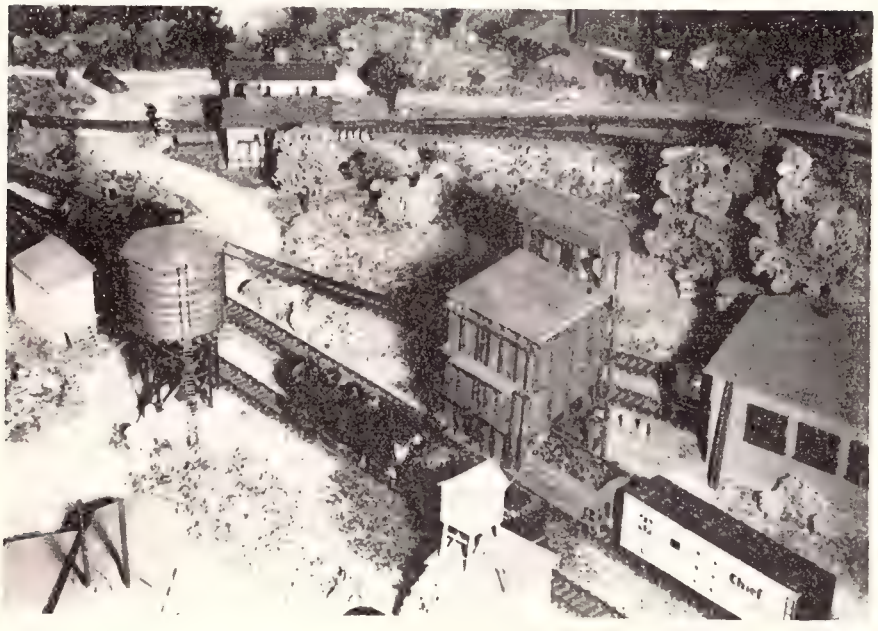

A 4-6-2 locomotive in HO gauge leaves a tunnel on a distant "nabor's pike" built by Johan Van Heyningen of Holland. The strange, although highly authentic scenery was inspired by mountainous terrain of Europe. To capture the setting, partly rotted tree trunks were used! The weak parts of the wood were carefully scraped away with the aid of a knife and screwdriver so that only the firm, hard wood remained. The wood was then colored with flat green, yellow, red and brown paints. Trees and shrubs are all made of moss and lichen; tunnel portal is the builders own plaster cast, made in series. Bridge was formed by two curtain roller rails with handrail of copper wire soldered upon it. Supports of bridge are ordinary wood with some scraps of balsa.

Known as the Sans Souci (without care) railroad, the HO pike shown above is the handiwork of M. M. Brown of Jersey Shore, Pa. This nicely detailed pike is on two levels and uses both steam and diesel equipment. Both the water and coaling tower illustrated were made from a photo in the Feb. '52 issue which depicted the Durango yards of the D&RGW. Other buildings were also turned out in the Sans Souci shops.

YOUR NABOR'S PIKE

Send us photos of your model railroad so that other readers can see the results of your work. Photographs which illustrate good detailing, clever use of commercial equipment and ingenious modeling are wanted for publication. We pay a minimum of $5.00 for all photos used in this section. Address your entry to: Picture Editor, Railroad Model Craftsman, Ramsey, N. J.

A hearty cheer goes up as east and west rail gangs meet at Red Bluff, somewhere in the mountainous districts of the west. Below the work train can be seen delivering the last materials needed to complete the trackage of this railroad. Workers swarm along the right-of-way so that the job will be completed on the scheduled. Certainly a great day for Red Bluff. Opposite, all ties have been laid and everything is in readiness for the last few lengths of rail. Workers stand aside as a special train, with banners in honor of the event, as a special train, carrying the high brass, hoves into view. The station is be-decked with banners in honor of the event. Above, the story is climaxed as the golden spike is driven home. Another model pike well on its way to completion. These scenes were snapped by G. A. Humann of Tehema, Calif. on his extensive O gauge empire.

TINPLATE

STRICTLY TINPLATE

You can read all about this interesting phase of model railroading in the hobby's newest magazine, Toy Trains. There's a lot more to railroading than just watching the trains go 'round—and Toy Trains magazine tells you how.

TOY TRAINS' CONTENTS

Starting with built up locomotives and cars, this magazine shows how to add to this commercial equipment, how to use it to best advantage. Toy Trains shows how to build complete layouts for every gauge and space; it explains the functions and mechanisms of locomotives and automatic tinplate accessories so that even the youngest beginner can understand the principles.

Each issue of Toy Trains has a special section of easy-to-build projects such as cut-outs; precolored buildings which are merely cut out and glued together. Another simple, yet highly effective article, is a series on background scenery. To develop this project, the reader merely clips the pages from Toy Trains, colors as indicated, and set the unit to the rear of his layout. This single series will produce a colorful background five feet long!

There are still other ideas for those readers who want variety in their layout; at least ten layout plans are shown each month complete with wiring data. Many of these pikes can be set up right on the living room floor, others are designed for permanent layouts.

WHO READS TOY TRAINS?

Toy Trains is prepared each month for the thousands of father and son teams who pursue their hobby with tinplate equipment. Each article is designed to help this team enjoy their pastime and help them get the most from every purchase of commercial equipment.

All articles in Toy Trains consistently help the average tinplate enthusiast over the most difficult stages of our hobby. We'd like to have you examine a typical issue and see how it can help you or possibly some friend of yours who is just getting his start with tinplate equipment. For your sample copy, send 25¢ together with your name and address to:

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DISPATCHER'S REPORT

Odd how the thinking changes on HO cars . . . in the early days we made cars out of balsa wood, cardboard, and maybe a little white pine . . . the idea was to keep 'em light so the little engines could pull long trains . . . motors were all DC-60 equivalents, or even weaker imports . . . Balsa soon was replaced by sugar pine, which is sturdier . . . sides remained cardboard . . . but we had cast underframes to get weight down low where it belongs . . . Then came all sheet metal cars from Mantua . . . Varney . . . Globe . . . Athearn . . . these were heavier of course . . . Then cast cars, yet, from English, Roundhouse, Devore . . . heavier yet . . . Now Varney is swinging back to plastic cars with plastic underframes for lightness . . . meanwhile an engine of any size now has a DC-71 heavy duty motor and some even DC-91's . . . to keep up with the heavier cars . . . So with the lighter cars and the stronger motors may soon be able to pull a train that extends all the way around your oval track . . . with the caboose trailing about one car length ahead of the engine! . . . What *is* the longest HO train you have ever been able to run? . . . Send me particulars as to engines used, cars, couplers, trucks, curve radii, grades, etc. . . . TT demonstration layout runs 100 car trains; can HO beat that? . . The trouble with long long trains awindin' is that one wheel dropping off the track or one coupler coming uncoupled can foul up the whole works . . . Anybody want to claim long train records in O or S gauge?

Wanna argue about sprung vs. rigid trucks? . . . in the old days (there we go again combing out our long white beard) we used to buy equalized trucks then solder them rigid so they would stay on the track better . . . Personally we don't cotton to sprung trucks except that they entirely eliminate the formerly rife assembly fault of having only three wheels on the rails at any one time! . . . Cars aren't heavy enough to make the springs really spring . . . Ever have a pair of sprung and equalized Buckeye six wheel trucks get away from you and practically turn inside out? . . . What's your experience; do sprung or rigid trucks derail more? . . . By the way, sprung trucks are nothing new . . . Carl Auel had them in 0 gauge way before the war . . . Model RR Exchange (Collingswood, N.J.) had them in HO around 1938 . . . Now of course springing engine trucks is something else again . . . since they don't share the weight of the engine as real ones do, they need a spring to hold them down . . . But of course not too much spring or the front drivers will be lifted off the rails and traction will be lost . . . Haven't heard anything of sprung locomotive drivers since Varney's "super" kits went out of production . . .

Do we have any embryo authors in our midst? . . . who write stories and constantly get rejection slips from story magazines? . . . Why not try some model railroad writing? . . . It won't pay the fabulous way the big magazines do, but when you write about something you know, your work has a better chance of acceptance . . . Submit your mss. first to RMC or TOY TRAINS . . . We do *not* want long-winded dissertations on how you got started, troubles in building something (unless good lessons can be drawn), your theories or ideas on model railroading—unless put into practice . . .

Tinplaters who have been looking for a wide-radius hollow-rail switch since Lionel quit making 0-72 turnouts may have it at last . . . in the Century, made by Hirth Hobbies of Chicago . . . Will work with Lionel or Gargraves track . . . attach your own controls such as a switch machine or choke rod . . . Marklin O gauge has a two foot radius inside third rail switch, either manual or remote control, ½th circle . . . Solid railers will find Bob Peare's units perfect . . . Tinplaters who favor camelback type locos have never had a break until just recently when International came up with such a model, for either scale or toy 0 ga. track . . . During the barren twenties and thirties tin-platers would have given their eyeteeth for a trolley car . . . now, when real trolleys are scarce, there are plenty of kits and even built up trolleys . . .

Thanks to the recent transit strike in Philadelphia, the P.R.R. suburban business is booming . . . many new riders . . . they are seriously considering fifteen minute service on the main line as far as Bryn Mawr . . . and half-hourly service to Media . . . already have it to Chestnut Hill . . . all with MU cars . . . And get this, the Red Arrow lines (trolley and bus) which feed into the Phila. elevated system at the famed 69th St. Terminal wants to feed instead to the P.R.R. at Ardmore and Clifton and maybe some other places, issuing through tickets . . . So its an ill wind, etc. . . . While on the subject of P.R.R. MU cars, which end in the pantagraph on? . . . Not a foolish question, either . . The pantagraph is always on the lavatory end . . . Doesn't make much difference unless you are modelling a combine . . . all of them we've ever seen were wrong (models that is).

Every week's mail brings increasing evidence that there are a bunch of red hot railroad modelers up in Canada . . . both scale and tinplate . . . strange considering that supplies cost 25% to 50% more than in the U.S. . . . If the non-writers are in the same ratio to the writers as in the States, they must have more railroaders per thousand than any other country . . . Jerry & Sky, all night disc jockeys on W.B.Z., Boston, sign off with a good rail-

road theme: "Let's head for the roundhouse; they can't corner us there!" . . .

Latest gimic is the HO coupler of the month club. Each month you get sent a new and different type of HO coupler guaranteed not to mate with anything you've ever had before. Uncoupling ramps to match are given free as bonuses after every sixth consecutive purchase . . . NMRA, revered by many and yet damned by others. Many feel that the engineering report sheets are a thorough waste of time. We feel that attending the twice yearly convention is alone worth the price of the $3 regional and local dues. Anything extra is just so much gravy; especially the yearbook listing many other modelers in your neighborhood whom you don't know but should . . . Swapping of unwanted equipment getting more popular all the time. If you can't get a good swap locally, try RMC's Swapper's Column but be fair to the other guy. Keep your ad short, don't abuse the privilege, and we prefer that no reader be listed more often than every third issue so that everybody has a chance.

. . . Charlie Weston, of Weston Mini-Figures tells us that the demand for O gauge figures has increased considerably in the last year, which of course is gratifying to all the O gaugers that are around. Next O gauge item will be a "Flexible Freddy," but not before some more HO figures roll off of the production line. Deciding on new figures to produce is a tough one, says Charlie, and he'd like to hear from RMC readers as to their wishes and desires. We've already requested an O gauge "September Morn," the detail on which would make the HO version look pale. Write him at Weston Mini-Figures, Route 1, Box 53B, Healsburg, Calif., which is their new address . . .

. . . Milwaukee, noted for its fine beer and cheese. How can any of our readers avoid having their pikes loaded with the colorful old time beer reefers which literally scream out Blatz, Schlitz, Old Heidelburg, and dozens of other delectable brews. Many are available in all gauges, from TT on up.

. . . If you've never seen OO gauge in action, you'll have a chance to see this interesting gauge strut it's stuff when the North Jersey Midland Club holds open house for the North Jersey Federation of Model Railroad Clubs on May 25th. The address is 523 Hory Street, Roselle, N. J. . . . The North Jersey Midland claims to be the largest and most active OO group in the country, and was instrumental in getting ABCOOR (Teaneck) and Rockford OO clubs going. Any other OO clubs around? Are there any TT clubs started yet? Or S? . . .

You've seen these signs in the window: "We have a man in the Navy" . . . Well, how about some signs: "We have a man in the cellar" . . . the way some of us characters stay down cellar, we'll have to join up with one of the railroad or transit unions . . . only trouble is the 40 hr. week would be a laugh; we'd demand the 80 hr. week, less family activities on weekends and holidays so we could stay in the cellar, fringe benefits in the form of tray service so we wouldn't have to come up to eat.

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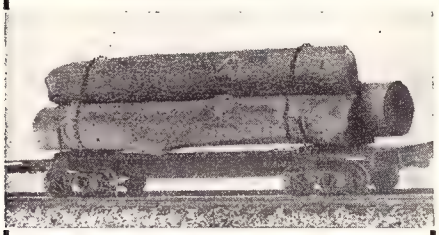

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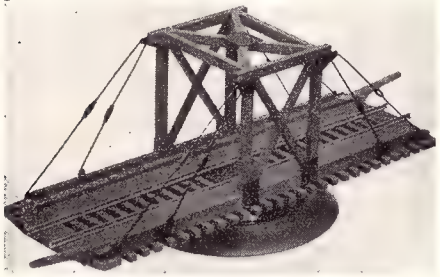

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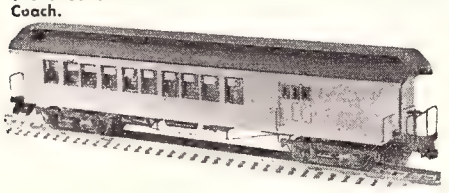

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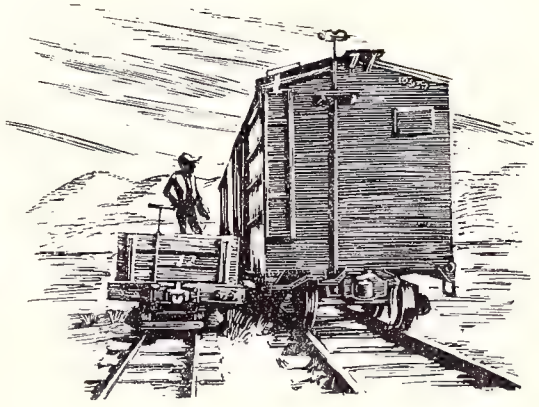


NARROW GAUGE JUNCTION

Conducted by Dick Andrews

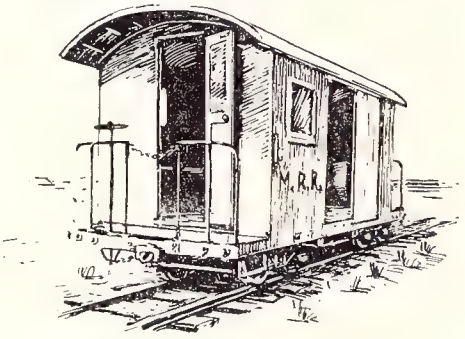
So many fellows are getting interested in narrow gauge that we are setting up a junction point here for interchange of ideas, dope, notes on where to get things, and general narrow gauge lore. All scales and track widths are welcome—variety is the spice of life, and that's what is fun about narrow gauge—which never got too standardized. The tracks here are dual gauge, so that the "wide gauge" boys can come in too—many narrow gauge ideas will be useful all around. So send in some lines on what you're doing—or what you'd like to know!

Our grand-dads often found it hard to fit the wide curves of 4′8½″ width track into rough country, so they took to narrow gauge about 1870. And it is just as rough today for a lot of us to get those curves into our layout spaces—hence a welcome answer in narrow gauge—which in any scale permits a curve radius of half the standard figure! Thus we can get the small size without having to cut down the modeling scale, or giving up detail.

The sketch here shows an "end platform box car"—a type once popular on short lines of all gauges as it was so darned handy to have around the pike line. It could be a box-car if needed, or a way-car on local freight. Or it could do duty as a caboose on a freight or log train. But it also saw plenty of action in passenger work, cut into the string of varnish for baggage hauling and a general spot for the boys to get together and smoke during a long back-country ride. So build this car and it will add to your passenger, freight and non-revenue equipment all at the same time—a real "combine"!

Windows are optional! some had 'em, some didn't. The roof can be as shown, or box-car type—in fact, this car can easily be made up from a box-car kit just by adding the end-platforms and end-doors. Let it be as fancy or as crude as time and materials indicate—that's the way it was on the old-time short lines. For three foot gauge, make her seven to eight feet wide, height of car inside about six to seven feet, and length anywhere from 24′ to 30′ or so. Wheels 24″ to 27″ diameter. For two foot gauge, take a foot off the width and put her on 18″ to 22″ wheels. These are basic freight car dimensions for those gauges.

Ted Collins of Kutztown, Pa., an old hand at modeling 3′ gauge in ¼″ scale, or "On-3", writes: "The two On-3 Mallet 2-4-4-2's which Vince Ryan and I were building are now finished and run very sweetly, hauling 15 or better cars on 5% grades and snake around 24″ curves with a beautiful swinging motion. They will actually "crawl on their bellies" as they are geared about 39:1 and have 37″ drivers. They look fine and are now waiting for paint." Well there is an idea of what can be done in



O scale, with On-3. Ted and Vince (who lives in Buffalo, N. Y.) have worked together on other locos by mail before—quite a stunt. Vince does the superstructures and Ted turns out the mechanisms, or at least that's how it was when they turned out four little 0-4-4T's between them year before last. Yours truly was present when the locos were erected—they went together with hardly a hitch!

Ted has served as a supply man for other On-3 modelers for years, and is now able to offer a good many high quality parts—many of them lost wax brass castings—made especially for On-3, such as car wheels, drivers, a pilot, boiler fronts, and unmatched main frames and cylinder castings for a "South Park" Mogul—also car parts including queen posts, turnbuckles, scribed wood—all the stuff that a fellow needs to build from scratch. He also has available over 190 different

plans of narrow gauge locos, cars and such structures as gallows turntables. Anyone interested should get in touch with Ted at 123 W. Main St., Kutztown, Pa.

Did you know that in the rough old days a train didn't run "extra"—it ran "wild"! And trains didn't "meet"—they "crossed". Such were the times of wooden axles and iron men!

That's about it for this month but in future issues we'd like to include your ideas and hints on narrow gauge together with your sketches and photos. The pooling of ideas will help all slim gauge enthusiasts and those modelers of old-time equipment. Let's hear from you.

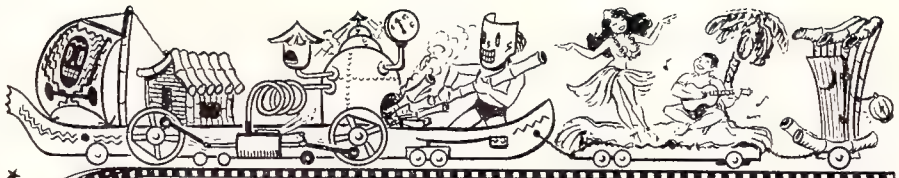
. . . the call board

The Thousand Lakes Region of the NMRA will hold their spring meeting on May 3 in the Twin Cities. For detail, contact Lloyd R. Salisbury, 412½ Cedar Av. or Ernest Lagerstrom, 5235 41st Av. S., Minneapolis.

North Central Region of the NMRA will get together in the Hotel Olds, Lansing, Mich. on May 2-3. Fan trips, Golden spike ceremony, inspection of home layouts (O, HO & S) and Clinics will be featured. For details, contact John Dye, 1646 Lindbergh Dr., Lansing or Jack DeCamp, 603 Charles St., E. Lansing.

Huntingdon Co. (Pa.) Model RR Club will sponsor a fan trip over the Huntingdon & Broad Top Mt. RR on June 7. This may be the last trip as the abandonment of the road has been ordered by Federal Court. For details, write J. Alex Steel, 321 Mifflin St., Huntingdon.

If you desire an immediate answer to questions sent to this department, please include a stamped and addressed return envelope with your inquiry.



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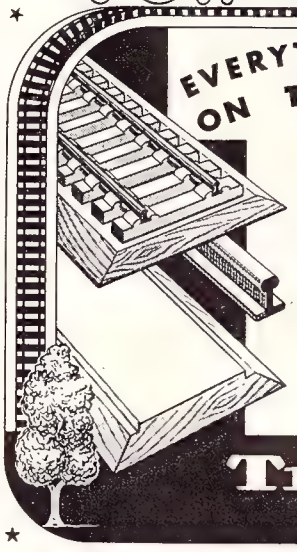

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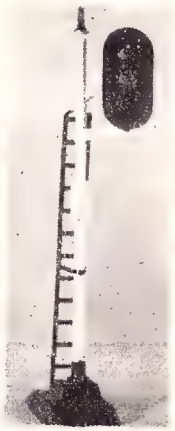

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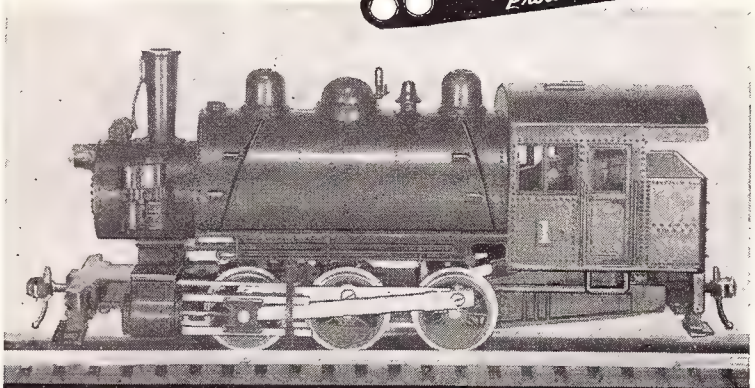

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Tinplate—The lithograph Process
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RR Club news

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42' wood box car (HO)
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B&O 2-8-8-4 EM-1

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Watchmaking tools for the Model railroader
V&T Station of the 1870's
Ives Floor trains
Wood gondola (HO)
CNJ 4-4-2 camelback #802 (O)
Performance curves

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Simple interlocking plant
Express reefer (HO)
B&O Coal Tower
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CNJ 2-6-2 tank type #200

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BRB&L coaches
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Covered Bridge
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B&M 2-6-0—Part II

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DL&W 2-8-0 (O)—Part I
BRB&L 2-4-4T
Interlocking without relays
PSNJ 2300 series deck roof car
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DL&W 2-8-0—Part II
B&O Sentinal Box Car
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Iron Toy Trains, More On
B&O 5300 4-6-2 (S)
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PRR 2-8-2

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Signal Control
DL&W 2-8-0—Part IV
Hopper & pulpwood cars
Model bungalows
Starting a trolley line

☐ **September**
LV 2-8-2 Camelback (O)
Interurban sand car
HOO Gauge trains
Trolley trackwork troubles
B&M 4-4-2—Part II
Key Sys. articulated cars

☐ **October**
B&M 4-4-2—Part III
Single truck caboose (O)—Part I
Old series Lionel
O gauge stock car
ACL 1800 series 4-8-4
Terminal operations

☐ **November**
B&M 4-4-2—Part IV
ST Caboose—Part II
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Porter 30" gauge 0-6-0
Bing American type trains

☐ **December**
Realistic Arch bridge
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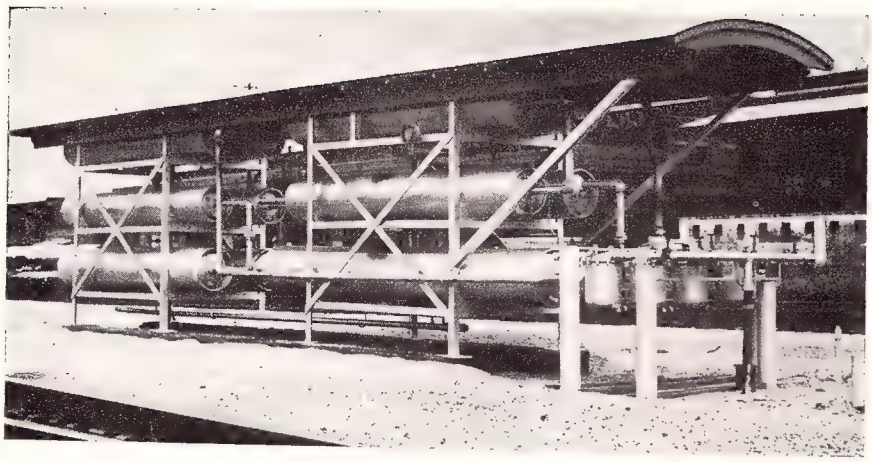

If your railroad "has everything," we'll bet it doesn't have a yard charging plant for air brakes. After a train is made up, it takes an engine a long time to pump off the brakes of a long freight, so many roads provide one or more yard charging plants to increase the supply of compressed air available. The photo shows one such yard charging plant on the Frisco, complete with tanks, filters, and after-coolers; an easy to make (fine strip-wood, dowels, wire) addition for your model pike's yard. Since such plants are usually made in the railroad shops as required, their design will vary considerably.

Interurban Notes

The longest interurban system now remaining is the Illinois Terminal line connecting Springfield with St. Louis. However the Pacific Electric around Los Angeles carries more passengers.

A good place to see interurban cars still performing as in their hey-day is the 69th St. Terminal in Upper Darby, Pa. just west of Philadelphia. Not only does the elevated line operated by the Phila. Transportation Co. (5'2" gauge outside third rail) terminate here with a loop and large storage yards, but two other lines, real interurbans, come in to an adjacent terminal.

There is the Philadelphia & Western, a standard gauge outside third rail interurban running entirely on private right of way through Ardmore and Villa Nova to Norristown with a branch to Strafford on the Pennsylvania main line. Cars of the Lehigh Valley Transit, both freight and passenger formerly entered Philadelphia via the P & W, the changeover from overhead wire to third rail being made at Norristown where the motorman would lower the pole and throw a big SPDT knife switch in a box in his cab.

Then there is the Red Arrow Lines, or Phila. *Suburban* Transportation Co. a 5'2" gauge overhead trolley line. Besides numerous bus lines, this company operates four radiating trolley lines. The best cross country interurban ride is to Media. The Ardmore and Sharon Hill lines run through more built up areas and have more stops. For about the last old side-of-the-road interurban running left in the country, the ride to West Chester is a must.

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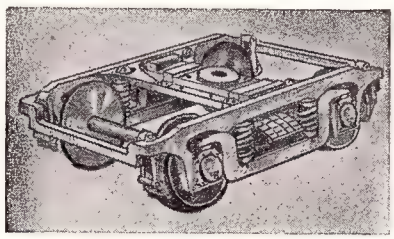

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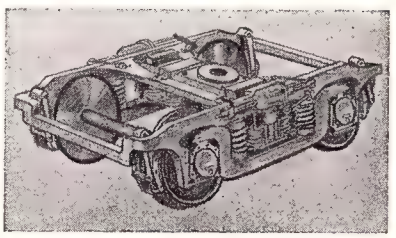


T-52
cadmium plated

"Off'n the Table Top"

News and Views of TT

By Glyn Lewis

Starline Returns . . . Kemtron Delivers . . . Dance Reports . . . H. P. Makes Big Step . . . Nielsen Plans . . . New TTer . . .

Lookit those headlines! May is the month that this year brings more than flowers . . . . Starline, the second manufacturer to enter TT, and remembered for their fine products, are staging a comeback. After much adversity the Texas TTers are hard at it producing roadbed you all admire. This is really good news and we are sure that you will all join in with a hearty, "welcome, and the best of luck!" From out in California the home of Marilyn Monroe and Levon Kemalyan (Boss man at Kemtron) comes two really beautiful diesels, The first an Alco road diesel is ready now and consists of typically fine Kemtron lost wax brass castings and photo-engraved brass. The power chassis is a real gem, powered by a Lindsay motor it runs like a watch! Coming soon is a road switcher that puts like models in the larger gauges to shame. Even a hardened steam fan like this writer worked up quite a romance when confronted with these two models.

Sherman Dance who heads the prolific "Gandy Dancer" outfit informs us that he may be moving to much larger quarters, and hopes this will mean that production can be increased and speeded up. Hal Joyce, TT's "daddy" and president of H. P. has made quite a step forward, the development of a practical ready laid track, ala the tinplate boys here and abroad. With this trackage it will be as easy to lay track as it is to put down the Christmas toy trains. This product will be available to all very shortly. E. S. Nielsen of New York has decided that due to the return of Starline roadbed, he will go into the manufacture of ready built switches. The first will be a #3. We are sure that he will have a ready market. The lastest manufacturer to enter TT is B. Blake of New York, N. Y. Blake is planning wooden car sides (and possibly full kits) but has been held up by slow delivery of Northeastern scribed wood. B. B's address is B. Blake, 461, 122 E. 42nd St., N.Y. 17, N.Y.

TT Jottings

"Gandy Dancer" has received an order for 40 Tank cars . . . from General Motors . . . they are planning some sort of TT display . . . The Train Terminal of New York City, has, as reported here, gone into manufacturing . . . first items are to be trackside structures, all wood, all painted, and where necessary, all lettered . . . . delay in first shipment has been due to non-delivery from Northeastern . . . . Model Locomotive Shop, Box 86, Brandywine Station, Schenectady 4, N.Y. has a stock of the new Kemtron Alco Diesels . . . . . A. L. Co. Hobbies of the Bronx, N.Y., have been working on Nylon wheels, snags have developed that will delay these, so the first product may be an all wood girder bridge . . . with plaster (simulated concrete) abutments included . . . . . Greg Milligan, a faithful TTer, comes up with a clever suggestion, y'know the little aluminum cans that Eastman Kodak's 35mm film is packed in? . . well Greg suggests using them for water tanks, like those seen on factory roofs . . . . cut off the threaded part at the top of the can, make a conical roof, put on "legs" (steel I beams) voila! A water tank. On the side of the can is the word Kodak embossed into the metal . . . paint the raised letters and you have the beginnings of an Eastman Kodak factory for your town . . Thanks Greg . . . . . Any of you TTers that have ideas . . c'mon "share the wealth" . . .

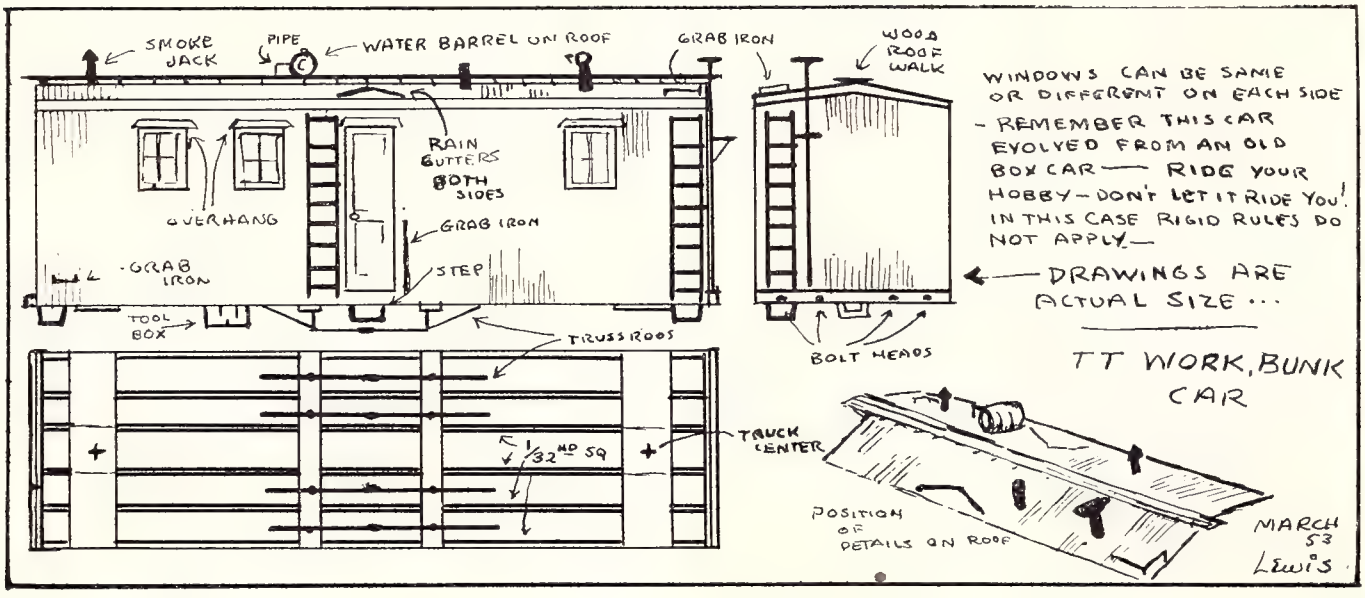
From The TT Mail Car

The mail still pours in (praise be!) and it expresses many ideas and thoughts . . . all, we assure you, of great interest to us all . . . . keep writin'

First a plea from Henry P. Eiseman, 6633 Moklelume Ave. Oakland 5, Calif. Henry would like to hear from other west coast TT gaugers, perhaps you can get a TT confederation going out there; the New England one is going great guns. James B. L. Lane of Winchester Mass. has a few problems, we believe that your answers are in the lead paragraph this month. Thanks also to, Henry Wallace, Roger Daley, Walter W. Clark, Richard Leatherman (Dick has some ideas that we will publish next month) Don Weebe, Dick Rinfret, Hal Croxton, Sam Long, Gilbert Allinson, Harold Porter, W. Kulova, Dave Carney, H. Garvey and the many many more that have been answered through the mails.

Reminder

Be a real hobbyist and share your fun with others . . .especially our fellow TTers overseas in the armed forces . . . take time out to drop a line to, Capt. F. L. Willis, 12th Communication Construction Squadron, APO 10, c/o P.M., N.Y., N.Y. . . . M.Sgt. A. F. Gibbons, RA6947219 966 Engr. Field Maint. Co., APO 46, c/o P.M., N.Y.,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Speaking of catalogs . . . . Dance is printing a new one . . . . Nielsen will send you his new 8 pager for 5¢ to cover postage etc. . . . .H. P. is preparing a new "super" catalog . . . . Happy reading!

About The Plan

This month the TT plan is for a work car, this one (first of a series) is a bunk car. The plan shows it as a 36 foot car, but it could be a 40 footer just as easily . . we just happen to favor the shorter car. Basis of the car is the "Gandy Dancer" body kit (roof, floor, end blocks and roof walk) which sells for 25¢ . . . in this case a half inch was cut off the floor and roof. Sides, ends and roof sheathing is of Northeastern 3/64ths scribed wood. Ladders are Nielsen's (but H.P.'s could be used) Trucks are Dance's Arch Bar, but use whatever you prefer . . . We like the old time type and the weight of the Dance product. The rest of the materials consist of scrap bits of wood and wire. We painted the car with grey Floquil, tuscan red for the roof, ladders, smoke jacks, and underbody black. Thin all paint with thinner before applying it, when finished dirty and age with charcoal.

More on Derailments

After the model railroad is built, the fun of running it begins, and the pain of maintaining it starts! "It always goes off there" I've heard many operators say. "It always goes off there." And then they go around the oval again, whereupon it goes off "there" once more. Often it is just one engine or one car that goes off, but the important thing to do is to find out WHY the derailment occurs.

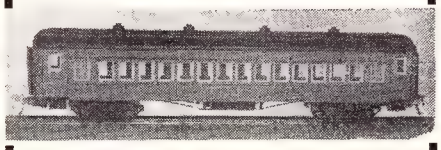
You have to get right at the site and observe the engine and cars running through fast, slow, forward, backward and try to see where it really goes off the rails—which may be some distance back from where it appears to go off. Try to find out exactly why it goes off. Push the engine or car or train through under hand power. Pull it through fast, slow, and with various side pressures. When you find why the derailment occurs, fix it.

A Pacific type engine with flanges on all drivers may pop off simply because the sharpness of the curve or a part of the curve pinches the middle drivers up and off. File off the flanges or widen the track gauge a bit. Leading and trailing trucks as well as diesel truck protuberances are wont to snag on parts of the underframe or body, then zip—off the track. Couplers may be out of line and whip the next car off. Trucks may be crooked or just not have all wheels on the track. Track joints may not be in line; spikes may be high, gauge may have worked too wide or too narrow. A tough one to fix is a derailment caused by a change in curve and grade at the same time. A switch on a hill should be *on* the hill, not partly on it. One of the toughest ones to fix that I ever met was caused by a reverse curve and a vertical curve in the same area at the top of a hill. Such conditions may be remedied by use of guard rails, but the best thing is to revise the grades and curves so that the situation is really corrected.

Guard rails are quite in order on sharp curves. Real railroads use 'em, and even if they didn't, why shouldn't you? Usually guard rails must be placed next to the inside rail of the curve, occasionally inside of both rails. The base of the guard rail should fit snug against the base of the running rail: this will insure the correct width flangeway for all but the most *hairpinny* turns. If you are using Atlas stapled track in HO or Peare's in HO, S or 0, the staples will keep the guard rail away from where it should be, so you must file little nicks into the base of the guard rail where needed to fit around the staples. Where track is spiked down, a good idea is to solder the running rail to the outside spikes, remove the inside spikes; also solder the guard rail to its spikes which will be on the inside only. Often you will find it advantageous to put a short guard rail in front of a switch, or to lengthen the guard rail opposite the frog of a switch. They do not have to be soldered to the running rail if both are kept securely in position.

▶ At the beginning of 1952, Class I railroads owned 736,059 box cars and also 867,000 cars for carrying coal, ore, sand stone and gravel. If placed in train formation, these cars would span the continent about four times!

1910 Coach or Combine



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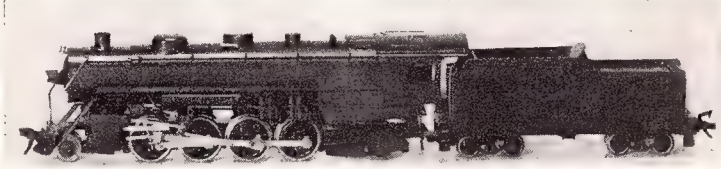

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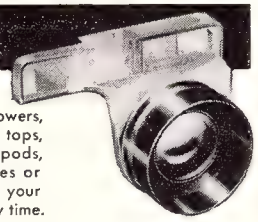

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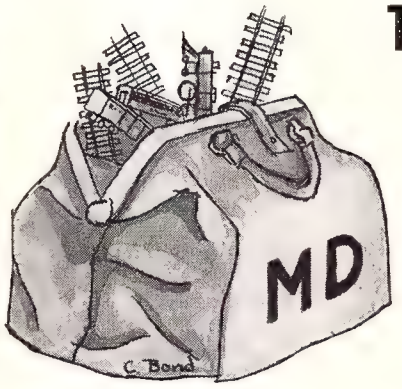


TROUBLE SHOOTING A MODEL RAILROAD

By Sam, the Trouble Man

All questions pertaining to model railroading will be answered through these pages or direct by mail by "Sam, The Trouble Man." Please include a stamped, addressed envelope with your question.

Table Top Material

What do you think of ¾" plywood for a layout table?—*Alfred Testa*

ANSWER: It's good and strong, needs few crossbearers, but is expensive, may be noisy, and is impossible when driving spikes. For a small area use a soft but *not* plastery wall board such as Homasote, for larger areas use open top tablework with just crossbearers and track-base supported above that at the proper elevation.

Proper Speed Control

On my HO gauge model railroad I find that my speed control will not slow my engines down enough. That is, it will slow them down some, but even just before "stop" they are still going pretty fast. What can I do?—*William Popula*

ANSWER: You don't specify where you got your speed control (rheostat) or what the power units (engines) are, but it sounds very much as though you were trying to use a rheostat of too few ohms, more suitable for heavier O or S gauge motors. For HO gauge your rheostat should be from 35 to 50 ohms and from 50 to 100 watts, although as little as 25 watts will do if you have a quick acting circuit breaker to keep it from burning out from a short circuit. Your best bet is to get a new rheostat of that capacity. If, on the otherhand, a rheostat controls a train just at its upper range and is "stop" over nearly the whole dial, then it has too many ohms. This will happen when you try using an HO gauge rheostat with an O gauge engine.

Phil Nichols: There are no smoke units available for any scale locomotives. Possibly you could manage to install a tinplate one in a scale engine, but we don't know of anyone who has done so.

F. R. Askew, Jr.; Tru-Scale makes 14" and 16" radius roadbed in HO, both with and without ties. For radii smaller than that you'd have to cut out your own roadbed with a jigsaw. Fou really don't need roadbed unless you intend to lay your track directly on a *plywood* table top.

Robert Catto: we never heard of 2-rail conversion kits for Marklin engines. They'd probably sell a lot more trains if they were available in 2 rail to NMRA standards, but apparently they aim chiefly for the European market where inside third rail is more or less standard for HO.

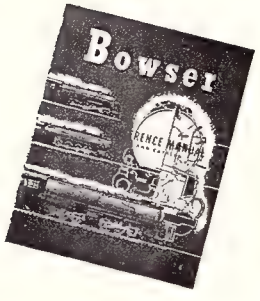
P. W. Limmer: We hear that quite a few of the redhot HOn 3-ers on the West Coast are using HP automatic couplers with success, although they were meant for TT gauge.

Loco Parts Source

Where can I get steam loco driving wheels smaller than the 51" size used on the Mantua Shifter and other makes of 4 wheel engines?—*Sydney Tormac*

ANSWER: The drivers used on Lindsay "Stubby" diesel switcher with side rods are about 35" diameter. The Brass Betsy (now taken over by Cliff Lines) had four foot drivers, but seem to be unavailable. You might inquire of Kemtron for the particular size you want since they have lots of specialities which never seem to get listed in ads: I know they have the Lindsay drivers with wide HO flanges rather than the regular TT ones—but lets not get mixed up in the HOn3 Battle of the Standards. If you can use a lathe, you'll find that the centers of Varney dockside drivers have very wide rims which can be turned down in fitted into new treads as 42" diameter.

KNOW BEFORE YOU BUY!



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Redlands, California

Minimizing Switches

Every layout I draw up for myself ends up with far too many switches for my slender budget, yet I do want a complete railroad with plenty of operation. LeRoy Beroldi

ANSWER: There are several ways to save switches, but I don't know which you can use. Double track requires less switches than single (with passing tracks); omit unnecessary crossovers, not more than 2 (one right, one left) for a whole double track line, even though you may have to travel a distance to reach one; omit industrial sidings for the time being, maybe making them "dummy" without a real switch; have fewer yard tracks, but very long ones, wrapping them around as much as possible; use a turntable to put engines in stalls.

Standard Gauge Equipment

Can you help me locate train sets the size of the old Lionel Standard gauge, or even larger? Does anyone make these trains to scale?—*H. H. Husmann*

ANSWER: Standard gauge hasn't been manufactured for fifteen years, so all that is around is what somebody has in his attic. Often these can be obtained free or for small cost. Second hand stores are a good source, too. Many of the older trains are becoming collectors items and you'll often find them advertised in classified sections of RMC and Toy Trains magazines.

I don't know of any scale parts for standard gauge, although I believe at one time some firms did have sets of castings. Any information received from readers would be appreciated.

Lawrence Brandt: In Jan. RMC, p. 25, the X's over the track on the trolley layout are meant to be breaks or gaps or insulators in the trolley wire (or track—let's not get into that controversy again). The letters in circles refer to power feeders to the sections thus isolated by insulators.

Donald Schmetter: The RMC #3 layout, HO in 5 x 9 ft. gives level running, a two level main line, and a third level for a branch line with yards, turn-table, etc. This was written up fully in RMC for Apr. 1952 which is still available at the Ramsey office. All the automatic couplers are good, but all have their limitations. Any automatic is better than dummy couplers to my way of thinking. For the RMC #3 Layout you could use three low priced packs such as the Scintilla Primerpack or one larger capacity pack with a separate control board containing three rheostats to control speed and three DPDT toggles to control direction. Alternatively you could use one pack *with* a single set of controls and uncontrolled D.C. terminals to which you could wire two "throttles". The second system would be the cheapest.

Ronald Kellson: If you have cleaned off all the flash and your worm and gear are perfectly in mesh, then you'd better be sure that the wheels with rods mounted roll very freely without the motor. After that check to be sure that the brushes do not short out or press out against the inside of the firebox. This can usually be fixed by lining its inside with Scotch tape or grinding it out a little with a rotary file in a motor hand tool.

Outdoor Railroading

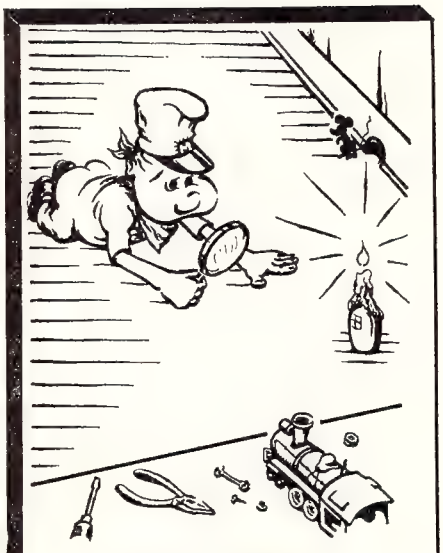
What type of track should I use to run HO gauge out of doors?—*H. J. Lanning*

ANSWER: None: they all warp to some extent and the least little variation in gauge will cause derailment. Keep HO indoors, except possibly for warm, dry summer afternoons (if any).

C. K. Vance: Pittman O gauge trolley frogs will work satisfactorily with the Penna. Scale Models HO gauge overhead wire kit.

Bill Mackinson: So far as I know it would be practical to make a mountain climbing rack railroad, similar to the Mt. Washington Line, in almost any gauge. You'd have to consult the Boston Gear Works (offices in principal cities) about getting the correct rack strip to mesh with the gear already on your locomotive axle. I think this strip would have to be cut quite narrow since the teeth on the worm gears of engines I have seen are on a slant the better to mesh with the worm. Probably you could take any small and heavy engine such as the Busy-B or Yard-hog and revise the outline slightly to make a creditable rack locomotive. The only thing along this line we have seen was one fellow who used Marklin track on a mountain climbing line, filing notches in the third rail to make it look like a rack. Believe some such sets were once imported in tinplate.

Michael Keller: A rheostat that doesn't slow the train down "to a walk" before it reaches the off position doesn't have enough ohms resistance. This might happen if you try to use an O gauge rheostat on an HO train. On the other hand, a rheostat that controls the train only over the upper part of the dial has too much resistance, such as would happen if you tried to use an HO gauge rheostat on an O gauge motor. Because it is a constant source of questions, HO rheostats should be around 40 ohms, S gauge around 30, and O around 20—with twin motor or heavy-motored jobs requiring less in any gauge. The wattage should be at least 50, but more than 100 watts would be rather expensive.



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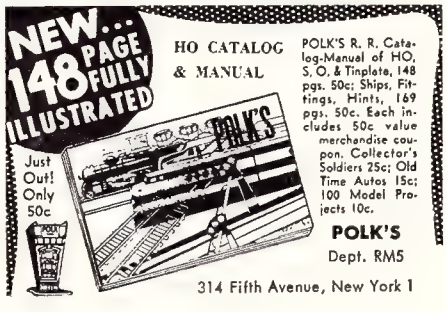
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FOUR BRIDGES

(*Continued from page 9*)

black with a little VanDyke brown added. My diary says that I mixed the oil colors from artists tubes and thinned them with turps until the paint would mist through a sprayer. It says here that the household insect sprayer was swiped and used for the job, then washed clean with turps, then water, and restored to the pantry shelf, and that the entire job took 30 minutes. No runny spots developed from over-spraying. The paint dries rapidly. When all units were given the first coat the one sprayed first was dry enough for a second and final coat. At any rate, the result was a flat, weathered color—no shine at all. The units were revolved and tipped to cover all bare areas—even the interior surfaces of the latticed girders. The piles in the trestle were rubbed down with a cloth after each coat before it dried, in order to show the wood grain.

Considerable work is involved in building the truss but if you have a knack with cardboard, wood and knife, it can be built in a week. But what's the hurry? Model railroading is a life-time hobby. The four-bridge crossing was stretched over a period of several months—all of one summer, the diary says—and right now there are a half dozen projects in varying stages of construction. Some day they will be finished, but there's no deadline.

If you like the crossing design, copy it, but there's enough basic engineering data in this series to enable you to strike out and free-lance your own design. Engineering books, photographs of actual bridges, railroad bridges in your neighborhood—one or all must be available. You will build a better model for having given them perceptive study.

Scenery is not a part of this series. I like texture paint plastered over window screening, carefully applied and colored for infinite detail. But in the end, you will do what you like best. The simplest way to build a river is to cut a sheet of plywood or masonite to the approximate shapes and bring the plastered banks down to the water's edge—studying Nature's way of sculpturing. Then paint the surface blue, blending tan at the shallows near the shores, and stretch heavy acetate sheets over it. Seams can be obscured by flowing water glass over them. The sheets will reflect objects if you throw strong light on the background—on a blue sky for example. The rays will bounce back to your eyes, picking up the reflections. That's the way Dame Nature does it.

ATTENTION AMATEUR BUILDERS

THE NMRA Bulletin recently mentioned the many amateur manufacturers whose light is being hidden under a bushel simply because they could not afford, in view of the part-time nature of their business, to advertise in national model railroad periodicals such as RMC.

We suggest these custom builders advertise their services in the classified section of RMC. Classifieds are reasonably priced and will be placed under appropriate headings according to the type of service being offered. So, if you custom build engines, cars or buildings, design or construct layouts to order, etc. try RMC advertising pages. The Trading Post page will still be open free to those wishing to exchange model equipment or purchase something they have not been able to obtain elsewhere.

It shouldn't happen to a dog but look what's happened to this retired refrigerator car. Propped up on blocks and painted silver, it's now a storage place for ice used by highway box cars. Quite a let down from the days when it crossed deserts and mountains as a more noble means of transportation. Staff Photo.

SHOPPERS DIGEST

Budd Rail Car in HO

In fulfillment of a strong demand by model builders from coast to coast, Irvin R. Athearn of Los Angeles, Calif. has just released an HO gauge version of a Budd Rail Car, an RDC-1. On the prototype, this self-propelled unit is making rail history by supplying profitable passenger service to runs that have been in the red for many years. The prototype is a lightweight, stainless steel diesel electric motor train noted for its strength, streamlined beauty, economy and versatility. It was completely described in Railroad Model Craftsman for January 1952. So too in miniature, this car is ideal for all around passenger service. It is Athearn's first powered model and his best production to date; everyone familiar with Athearn's line of freight cars knows of the quality of workmanship and design packed into each unit . . . and the Budd car tops them all!

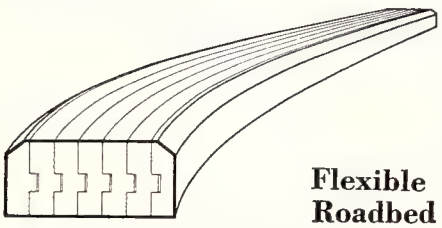
The miniature Budd Rail car has been under development in the Athearn plant for many months and the perfected model is a sight to behold. It is an authentic reproduction of the prototype with even the smallest details included. Construction of the kit is similar to the sturdy principles found in Athearn's freight cars; detailed assembly instructions describe all phases of construction. Popularly priced at $14.95, the unit may be seen at better hobby shop all over the country.

Electroplating Outfit

Here is an invention with a thousand uses in any home . . . and a few more in the home of a hobbyist. A real Pocket Electroplater! Manufactured by the J.N.T. Manufacturing Co. Inc. of 1440 Broadway, N.Y. 18, N.Y. This clever gadget, looking like, and about the size, of an ordinary fountain pen really electroplates. Depending on the solution and anode used it is a simple task to put a plating of chrome, silver and even gold on brass, copper, iron, steel or bronze. The unit operates on 1½ volt penlight batteries. Steps are easy to follow and the beauty of the device is that heavier coats can be built up by successive applications. The price complete for chrome coating is only $3.75. A kit with equipment for both chrome and silver is priced reasonably at $5.95.

Laconia Reefers

Two colorful old time reefers in HO gauge have been released by Laconia Models. The cars feature precision cut wood parts requiring very little sanding and, on our unit, fitted well. The sides and ends are completely finished and trimmed and require only cementing into position. Cast metal detail such as bolsters, truss rod supports (4 queen posts attached to crosspiece), and brakewheel are finely detailed. Additional parts include ladderstrip, wire, vents, and grab irons. The plans are full size, concise, and readily understandable. Recommended for both beginners and advanced modelers.



Flexible Roadbed

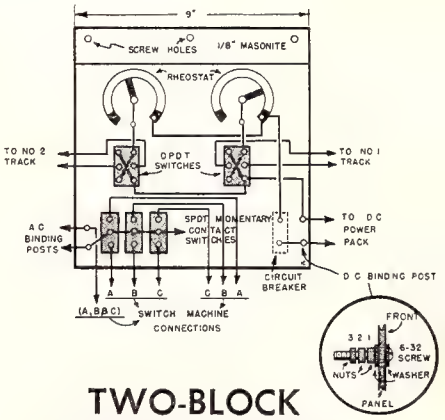
Ayres Scale Models, Garden Grove, Calif. have introduced a new type of wooden roadbed for use in HO gauge. Known as "Flex-O-base," it is a series of wooden strips, each fitted with a tongue and groove, which can easily be curved. Fibre trackage is laid directly on the surface. Strips are laid one at a time with their ends staggered for additional strength; designed for either single or multi-track use or as a roadbed for switches. Ideal for open benchwork type of layouts and for curves of any radii.

A PICTURE HISTORY OF B&O MOTIVE POWER

By L. W. Sagle, Simmons-Boardman Publishing Co., 82 pages

125 years of locomotive development are told in this latest book by Lawrence W. Sagle, a frequent contributor to Railroad Model Craftsman. Actually, the book might be termed a transitional History of B&O power, since it relates how modern steam power is giving way to the diesel. Mr. Sagle gives his comment on the EM-1 mallets by remarking, "--They will probably survive most of the older steam locomotives because of their power and efficiency, but the day will come when they, too, will be but a memory—a cherished memory of the old iron horse which did so much in the development of our great country."

The book is well illustrated with photos of all types of power, including the early pioneer period, the late nineteenth century, the early 1900s, as well as modern steam and diesel power. There is also a chapter devoted to B&O electric engines, now retired. We heartily recommend the book to all connoisseurs of locomotives.



TWO-BLOCK CONTROL PANEL

THE accompanying sketch shows a rear view of my control panel made up for two blocks in HO gauge. One block is the main line and the other is the yard. The base is a piece of one eighth inch masonite drilled with holes for screwing to edge of table at the top. Rheostats and reverse switches for each block are mounted in line and wired as shown to a circuit breaker in lower corner. Two binding posts, made as shown, are provided here for connecting to the power pack.

The SPDT momentary contact toggles for switch machines are placed along the bottom edge and wired as shown to the AC side of the power pack. It is helpful to have all AC wiring of a different color. —*Ralph Hutchison*

A Trackwork Kink

A kink in the track often seen on prototype railroads, but seldom on model pikes is one thing that will help make your pike seem more realistic. Where a siding parallels the main line, it usually does so at the minimum distance all through its length as shown by the dotted line above. However, real roads often find it expedient to duck the siding away from the road slightly as shown. This permits the placement, at approximately the site marked with the black square, of something like a signal or water-spout. Naturally a spout would be located far enough back from the switch so that a train could pull up on the siding or main line and take water. Since the water is usually taken near the rear of the tender, this would mean a whole engine length should be allowed beyond the fouling point of the switch. Past the kink in the track, the siding reverts to its normal closely spaced distance from the main line.

The L. I. Model RR Club will hold its annual show and exhibition on May 1-3, 8-10 and 15-17. Hours on Fridays will be from 7 to 10 p. m.; other days from 2 til 9. The pike is located at 23-68 Steinway St., in Astoria, L. I., N. Y.

"SWAPPERS COLUMN"

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MERICAN FLYER EQUIPMENT for sale, Will trade for #706 uncouplers, list for sking. Fred Riley, 99 Bartlett Rd., Winrop 52, Mass.

EW BUILT SHIFTER, new electronpack and freight cars. 20 track. All for $40. ichard Emde, 5521 Gilmore, St. Louis, Missouri.

NUSED VARNEY KITS, Casey Jones $17.75 diesel switcher $15.75 also untouched kits buildings, cars and switches. Stamp for st. G. J. Foss, 709 N. Spring, La range Park, Ill.

NTERNATIONAL LOCO HUDSON KIT—itest, 2 rail D.C. $32.50. Frank Wilkin, 30 Moss Ave., Oakland 11, Calif.

LIONEL ENGINES diesel switcher, Penn -8-6 and a 2-6-2. Best offer takes. J. cFall, 3616 So. 55th Court, Cicero 50, linois.

OMPLETE HO LAYOUT. 66 ft. Atlas brass ack, 6 brass switches, 1 steel ladder track. enn Line diesel switcher, 5 asst. pieces rollg stock. Power, Unipae DC-15 volts AC 6 st. double solorid switcher machines comlete control panel all mounted on 2-4x8 lotex boards and ballasted. Also asst. HO arts and scenic material. Complete file best ems from 3 years RR magazines. Cost er $115. Will take best offer. Will ship is or dismounted. Auron Rivel, 61 Lauenial Ave., Irvington, New Jersey.

O GAUGE TRACK, locos, freight, passenger rs and kits. All two rail. Will sell or ade for HO equipment. Send for list. erry Pollard, Alliance, Nebr.

O TRACK AND SWITCHES, 2 locos, 11 eight cars, power supply, meters, point, etc; st over $200 new; will sell as a unit for 125 or best offer, and throw in misc. parts d supplies. Write for list. Frank J. Herann, 3121 Lancer Place, Hyattsville, Maryand.

GAUGE SCALE, 2 locomotives, 12 cars, feet of 125 brass rail, fameo track layer, ssex reversing rheostat, etc. $50. Philip H. riend, 92-28 51st Ave., Elmhurst 73, New ork.

GAUGE SCALE KITS. Value $16.50 will ll for $12.00. Athearn great Northern Box, ll in kit and a Northern Pacific reefer rtially built. Good condition. Thomas 4 heel caboose, partially built, fair condition. om Foggin, 75 Harrison Ave., Kenmore 23, ew York.

SSEMBLED, UNPAINTED MANTUA BELLE 25. Send stamp for other HO items, Inuding used Atlas track, switches, some new. Pezzino, 660 W. County Line Rd., Lakeood, New Jersey.

LL OR PART OF HO GAUGE RR: English cific, built up, some detail added, 12 eight cars, 9 built; 1 JC Baggage car kit opened; 2½ amp. power pack in custom ade panel, including all necessary controls; Atlas steel turnouts, some steel track; and any other parts that could come in handy r any M. RR. Local vicinity preferred. D. alworth, 32 Concors Street, Cresskill, N. J.

IONEL LAYOUT 2 years old in excellent opating cond. $40 cash or HO equipment. nd name for list with stamp. Ed Saners, 032 N. Hutchinson Street, Phila. 33, Pa.

TLAS, MANTUA CURVABLE TRACK-20 ft. 6 switches; 4 rt. 4 left & 1 wye (all ack & switches Match) Mantua ballast and lt roadbed for 16 ft. Misc. Pieces Truale plain roadbed (Almost enough for all ack) All items HO gauge. Value $20 to 25. Sell all for $12. Carlton Klaus, 71 arl Street, Clintonville, Wisc.

ARROW GAUGE PHOTOS of Colorado RR's &RGW, C & S and R G S—complete set ten 5x7 photos @ $4. Also colored slides. rite for details. R. D. Tranter, 2868 orest Ave., Ashland, Kentucky.

HO ATHEARN AUTO & Mantua flat other cars. They have Mantua couplers. Ex. Cond. Two for $4.50. Gary Dysert, 17006 Philomene, Allen Park, Mich.

HO BOWSER articulated (less tender) unopened kit. $37. D. Howard, 1590 Lee, New Braunfels, Texas.

027 LIONEL TRACK 29 Curved, 59 Straight sections (Few Marx). were once used on layout are in excellent condition. Some pieces are new. Best offer takes them. R. L. Guthrie, 412 Peopia Ave., Peoria, Illinois.

36 FT. TT gauge prefab track and 10 #6 prefab switches (5 right, 5 left) Brand new-never been used. $28. Will also enclose numerous magazines and other railroading literature. Peter Lent, Andover, New Jersey.

HO SIX FREIGHT CARS A-1 condition. Model Railroader magazines: 1948-1951, Trains and Travel magazines 1949-1952. Complete and in good to excellent condition. Details on request; Ronald F. Tenney, Jr., 252-11 82 Ave., Bellerose 6, New York.

BEST OFFER BUYS 2 TRANSFORMERS (75 watt and 50 watt) Passengers locomotive, tender and 3 passenger cars. 48 sections straight and 46 sections curved track (027 gauge) Complete freight train including 2 locomotives, 2 tankers, 3 box cars, 1 gondola, 1 hopper, 1 caboose. P. Beitz, 953 South 56 Street, West Allis, Wisc. BLuemound 8-1690.

160 SECTIONS LIONEL O GAUGE TRACK, straight, curve, halves, 20c. section. Also new diesel switcher, rolling stock, Hudson and yard engines. All Lionel O in excellent condition. V. J. Felitti, 1006 80 Street, North Bergen, New Jersey.

VARNEY DIESEL A&B, A standard power, B dummy test run only $20 for both. Varney A single power with centri-clutch and Percisions power unit $15. Varney brute twin drive ready to go $21. Mantua Booster with valve gear, needs some adjustment $7.59. Complete Kasiner shortly streamline train with 5 cars. Obs. has working markets, trucks and couplers, $25. Ira Schreiber, 212 9th Ave., Haddon Hts., New Jersey. LI 7-6881.

BOUGHT $1800 LIST OF HO EQUIPMENT to build a complete HO layout. All still in cartons. 3-12 Baker wheel drive flywheel unit diesels—2 Varney 8 wheel drive diesels, every type of car, track, scenery, trucks, switches, wire, power, track, etc. Nothing else to buy. $600. E. G. Barnet, 30 Mead Witter Bldg., Wisconsin Rapids, Wisc.

MOTIVE POWER—Overbought. Have unopened Mantua Booster kit for $8 and unopened Mantua Trolley kit for $7.20. F. L. Van Voorhees, Box 132, Lemoyne, Penn.

TRADE

HOBBY ABANDONED. Lionel 027 train complete set. 1485 W-S. Extra cars, track, and 1124 Remote non-derailing switches. 3 mos old. K. K. Rose, 115 Borden St. Dedham, Mass.

WANTED: Varney or Bowser locos in unused kits. Will trade Atlas track and switches, Ace roadbed. Ronald F. Rykowski, 2324 Montana St., Chicago, Illinois.

WANT TO TRADE AF S gauge and AF O gauge for HO. Will throw in a Marx. Give deal and write. Robert Lambertus, 765 Sidney St., Greensburg, Penna.

SELL OR TRADE FOR HO: pre-war Lionel loco #2666, excellent condition; and many misc. engine parts; also many Air Trails M.A.M.s' Skyways, and English Model maga. Send stamp for big list. R. Silvernail, 120 E. Gamble, Caro, Mich.

EXCHANGE ONLY HO Have Varney A Unit, gear driven, equipped with Grain-O-Wheat headlight detailed interior cab in good condition. I am converting back to steam, and I wish to obtain an "ATLANTIC 4-4-2" John H. Ryan, Purser, Phm SS ESSO ASHEVILLE, c/o Esso Shipping Co., 115 Broadway, New York 6, New York.

YOUR BROKEN ELECTRIC trains with accessories wanted in repairable condition, any gauge for distribution to needy shut-in youngsters. Donate prepaid to Croatian Welfare Fund, Box 630A, Mar Vista, Calif.

WILL TRADE prewar Super detailed scale Lionel Hudson, two rail insulated custom tender K. & D. motor; also G. M. C. Mountain loco. Send three cent stamp for photograph of above. Want F3 or E7 Diesel "A" units. Will tell more in correspondence. Sprague A. Bollinger, 113 Kassick Drive, St. Albans, W. Va.

WANTED: transportation tokens (bus checks) of the world. Will pay cash or trade for same. What have you to offer. I have some RR equipment. M. B. McRoble, 1073 Pitkin Ave., Akron 10, Ohio.

TRADE: Bowser artic. w/Kemtron tender, Mantua Mike converted to Berkshire, Mantua Pacific, Varney, Casey Jones, English Mike, Varney Econ. Pac., Varney DeLuxe Consol. less motor, Lindsay 4 wh. power truck and many frt and pass cars. All new, well built and never been on a layout. Trade for O gauge locos only. Will give all for 1 Lobaugh articulated. George P. Schongar, Worthington Blvd., Troy, New York.

WANTED: Back issues of Model Builder, Model Craftsman, Model Railroader, Trains, HO Monthly, Miniature Railroading, Lionel magazine. Will pay cash or trade Railroad and PCC Trolley pictures. Also have issues of the Modelmaker for Sale or trade. Paul Moore, 1417 South 11th Place, Birmingham 5, Ala.

HAVE AF E-6 Atlantic engine and 3 cars; hopper, box and caboose, also 4 home made passenger cars and one tank car, 40 straight, 39 curve pcs of track, 7 homemade stub Switches. Will swap for HO equipment. Warren H. Hainer, 219 S. 5th St., Camden 3, New Jersey.

HAVE S GAUGE tinplate cars, locos, and trackage. Send stamped, self address envelope for list to Earle Mercier, 44 Major Drive, Nashau, New Hampshire.

TRADE OR SELL: Build-up HO locos, cars, some kits, scratch parts. Want TT kits only. Locos, cars. Send stamp for list. David Lisbin, 148 Kenville Rd., Buffalo 15, New York.

FOR SALE OR WILL TRADE FOR HO loco kits or built up models. Plenty of AF S gauge items including 2 new 332 DC V.P. locos also loco #322. Cars, accessories and track. Write stating what you want and what you have to offer, all letters answered. Harry T. Miller, 414 Sayers, Niles, Ohio.

WANTED: Lionel O-6-0 switcher, 2330 loco. Write price and condition. W. Grant, 3124 Grant Lane, Lafayette, Calif.

NEED TENDER LIONEL 385E Standard gauge. Want Ives passenger cars, long ones in standard. Am not a collector. Quote lowest possible price, Julius C. Christy, Sr., 917 S. An Clemente Ave. NW., Albuquerque, New Mexico.

HAVE: complete tinplate outfit. AF K-5 loco; hopper, tank cars and caboose (Illum); 3 doz. sections track (strt & cur) 3 B transformer and track terminals; uncoupler and smoke capsules. Good condition. $50 takes or trade for HO-Joseph Scholz, 32 Robinson St., Schenectady 4, New York.

WILL SELL or trade for Lionel 072 #700 E switcher five vols. Lionel magazines. Also will sell 3 pair 022 Lionel Remote control switches for $15 pair used only slightly. American Model Toys O gauge passenger and freight cars some never used, 1/3 off. Price does not include postage. W. A. Clark, 2 Acton Place, Annapolis, Md.

COLLECTION OF THE ELECTRICAL EXPERIMENTER magazine. 1915-1920 edited by Hugo Gernsback. All issues in fine condition. Ray A. Watkins, 1108 N. Main St., Bellefontaine, Ohio.

WILL TRADE OR SELL stamps valued at approx. $40, including 45 mint blocks and 4 albums for HO English Mikado with Tender and 2 amp rectifier and an HO RHeo stat. or $25. For information, write to Jim Rodgers, 56 Donaldson Ave., Rutherford, New Jersey.

WANTED Lionel magazine Vol. 1, No. 4, HO Monthly, Vol. 1, No. 2. Copies of The O Gager, The Extra, Railroad Magazine, and Model Maker after 37. Have same issues for trade. G. Volstorff, Links Naas Corry, Pensacola, Fla.

WANTED: AF HO Baklite track, straight, half and full. Name price. Edward P. Duffy, 523 Borton Street, Camden 2, New Jersey.

WILL TRADE AF ⅞" Steam Locos (2 UP 4-8-4-, 2 Hudson 4-6-4, 1 NP O-8-0, all DC) for Diesels. AF #365 AB, #405 A or #370 Switchers. Also want #633 WHITE only box cars, swap or cash. Write first to Lee Ryer, 11215 Cohasset St., Sun Valley, Calif.

TRADE OR SELL Mantua "Booster." Will trade for Montua street car or other electric or Interurban car or engine. Will answer all letters. Stuart King, 1433 Oakwood Drive, Anoka, Minnesota.

WANTED: Lionel 072—No. 711 switch pairs, No. 762 (072) straight tracks and No. 720 90 degree crossover in good condition. I will pay about $20 for each 072 711 switch pair, No. 762 (027) straight tracks—30c. each and No. 720 90-degree crossover—$2.50. Cyril Young, Jr., 54 Centre Ave., New Rochelle, New Jersey.

HAVE: $30 worth of chemistry equip. (glass ware and ring stands) Want: Varney diesel switcher (HO) or what have you. Tom Williams, Box 54, Lemont, Penna.

EXCHANGE AUSTRALIAN TYPE S GAUGE parts for American S. Want S equipment and will exchange Australian stamps mint or used or what do you want. C. McTaggart, 101 Laura Street, Tarragindi S3, Queensland, Australia.

TRADE OR SELL collection of Model aircraft gasoline engines for HO locos-steam, elect., Diesel and pass. cars, all types. Engines are all makes, Bores and strokes, were part of large collection. Many are new and have never been used, some are collectors items now out of production. Stamp for list. R. B. Jordan, 30 Miller Place, Valley Stream, L. I., N. Y.

WILL BUY OR TRADE: Back issues of RMC and other MR magazines; also Suckert binders. E. Stegg, 41 Poppy Lane, New Orleans 24, La.

FOR SALE OR TRADE 700 stamps and book and 1 Marx crossover for some Lionel equip. Ronald Zander, 641½ Alexandria Pike, Anderson, Indiana.

WANTED: Steel Rail, .200 to .250 high, new or used; also anything ½" scale such as started projects, odd wheels, trucks, patters, castings, etc. Herman H. Mitchell, 22 North Street, Huntington Sta., New York.

HAVE: 16 HO street cars and interurbans painted, lettered, ready to run; $3 to $25 each. Also 2'x4' portable trolley empire with scenery, overhead, automatic switches, $35. Will sell or trade for O gauge traction equipment. G. Beauchamp, 213 Lomitas Ave., San Francisco, Calif. JUno 3-1682.

WANT TO BUY Lionel #6460 Crane car and #6419 wrecker caboose. Charles Sluzenski, RD #1, Box 306, New Market, New Jersey.

WANTED: Great Western 2-8-0 kit or built up; will trade or pay cash for reasonable offer. Have expertly detailed Shifter, Ambroit stock cars, Silver Streak reefers, Ulrich old time flat and many others, painted and weathered in showcase condition. Will sell for reasonable prices, write for list and prices. Kenneth Schmelzer, Issaquah, Washington.

TRADE OR SELL 681, 2344 A & B, 2035, 2032 A & B, 733, all mag. tract. & never used. Want pre 1940 Lionel catalogs, pre 1930 locos, cars, (Lionel, A.F.). F. A. Gorke, PO Box 2046, Philadelphia 3, Pa.

TRADE MY 1952 KINE EXAKTA VX CAMERA, f2.8 pre-set diaphragm lens, and accessories, list $370 (or sell for $240.00) and/or my 1951 Lionel equipment list $250.00 (or sell for $125.00) for your HO equipment. C. A. Lizzarraga, Box 52, Stillwater, Oklahoma.

WILL TRADE OR SELL: App. $450 worth of HO equipment for up to date radio testing equipment. Will sell to the best offer. Send list for my list. All items in excellent cond. Paul F. Horlander, Star Route, Tell City, Indiana.

TRADE OR SELL: 1 AF Hudson freight, with automatic cars. Also other equipment. Write for list. Ray Costello, 104 Pleasant St., Newburyport, Mass.

FOR TRADE: Arends-bound HO Monthly, Vol. 3 or 4, excellent condition for "Iron Horses," "Steelways of New England," or "Oil Lamps and Iron Ponies." Both volumes for two books. Floyd Ellington, 216 N. Melville Street, Graham, N. C.

HAVE: Lionel 072 gauge 700EW scale Hudson, 763EW Modified Hudson, Penna. O-6-0 227B switcher; 700 and 2900 series freights, solid track and switches. Custom built HO train equipment, also new kits. Lionel Ives, AF, Marklin, Boucher. Early train catalogs from 1920 to 1932. WANT: Scale O gauge locos, scale-craft, Mini-scale, Alexander Icken, Lobaugh, Saginaw, etc. Ben Smith, 265 Tompkins Ave., Brooklyn 16, New York.

WILL TRADE a small Foreign and US coin collection for HO gauge steel rail switches and track for HO car kits. Also have bulk amounts of foreign stamps. Frank Flynn, Box 44, RD #1, Gibsonia, Penna.

SWAP: Pacific K-4 Engine kit (with tender) partly assembled, 30 flex brass rail, 4 switches; 30 cork roadbed, trade for DC S gauge equipment. What have you to trade. Charles Hoff, Hicksville, Ohio.

HAVE an extensive S AF layout. Will trade for HO or sell for ½ price. 8B transformers for $10 each. Harold Peterson, 1078 Thorndale Ave., Chicago 40, Illinois.

TRADE OR SELL: Mantua Shifter, English Pacific, Lindsay Diesel switcher. Richard M. Birch, RD #3, Mechanicsburg, Penna.

LIQUIDATING O GAUGE TINPLATE layout. Send self-addressed stamped envelope for list. A. Hill, 3 Occom Ridge, Hanover, New Hampshire.

1 JUNIOR VIEWMASTER MOVIE Projector complete with 11 films, instructions in original carton cost $15. Will trade for used HO gauge equipment. Richard Gronouski, 337 No. 9th Street, Saginaw, Michigan.

SELL OR TRADE FOR HO equipment. All American Flyer—1 diesel switcher, 1 circus train engine (4-6-2 streamlined), 2 circus flat cars with loads, 1 circus personnel coach, 2 cabooses, 1 wreck crane, 1 boom car, 1 automatic auto car, 2 box cars, 2 tank cars, 4 hopper cars, 1 search light car (old Type) 84 pcs track, 2 90 degree crossings, 1 oil supply depot, 2 transformers. Sell for $75, or in second hand, it must be car for car in HO. James A. Romsey, 815 W. 35th St., Norfolk, Va.

TRADE OR SELL AF O gauge Burlington Flyer #9900 streamline Zephyr and 2 coaches, plus 1 obs. car. Lionel comm. Vanderbilt loco and tender. Tank car, 2 boxcars, 1 metal cab. Marx 3 rail switches, 1 90° crossover for AF ⅞ scale S gauge locos and cars. C. G. Bagley, 23 Rockdale Ave., Peabody, Mass.

BUDDY "L" CARS, track .392 (std. ga) Boiler front. Monorail set. A.F. Burlington Zephyr Aluminum cars, tender made from Erector set, also want collections of Cigarette, Tobacco, Candy, Foot picture cards. Will pay good price. Joseph Osterhoudt, 192 Oakwood Ave., Kearney, New Jersey.

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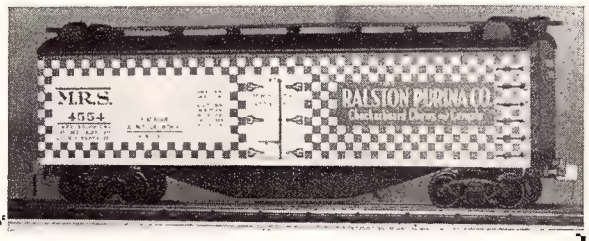

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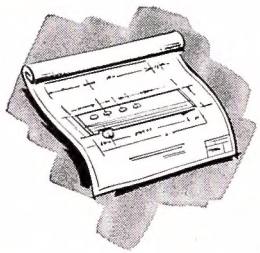

Every railroader knows the dramatic story of Train "X" . . . the most revolutionary in design of any train in railroad history. Just as its construction was a challenge to the genius and ingenuity of railroad engineers . . . so the model version will be a challenge to your skills.

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RULES OF CONTEST

1. Prizes will be awarded for the best scale model of a six-unit Train "X". Entries will be judged on appearance, accuracy and workmanship.

2. Models may be submitted in either "O" or "HO" gauge. One blueprint will be sent to Federation members each month until contest is completed. They will be sent in the following order:

1. Coach	**3. Diner**	**5. Observation Car**
2. Entrance Car	**4. Sleeper (Roomette)**	**6. Locomotive**

3. Preliminary judging will be based on photographs, not larger than 8 x 10. Photographs become the property of the Federation and will not be returned. Finalists chosen in the preliminary judging will be invited to send in their models for final judging. *Do not send in your model until asked to do so.* Federation shall have the option of leasing for one year from date winners are announced any models submitted for $50 in addition to any prize it may win. Otherwise all models submitted on invitation for final judging will be returned within six months after final judging. Each train of six units will be insured for $500.00 against loss while in the custody of the Federation.

4. PRIZES:

First Prize	**$500.**	**Third Prize**	**$100.**
Second Prize	**$300.**	**Four honorable mention ....each**	**$ 50.**

In case of a tie in either class duplicate prizes will be awarded.

5. Entrants may qualify and receive detailed blueprints of all six units of Train "X", a year's membership in the Federation for Railway Progress; a year's subscription to the magazine "Railway Progress" by filling out the membership application form on this page and enclosing $3. Present FRP members may qualify simply by filling in blank and writing "Present Member" on margin.

6. Judges: A. C. Kalmbach, Publisher of Model Railroader, C. A. Penn, Publisher of Railroad Model Craftsman, R. Brightman, Crafts and Hobbies Editor, Mechanix Illustrated, with one judge, W. R. Merriam, representing the Federation. Decisions of the judges are final.

7. All photographs entered for the preliminary judging must be in the hands of the Federation not later than January 15, 1954. Entrants who are to be invited to submit their models for the final judging will be notified not later than February 15, 1954. Models must be received not later than March 15, 1954 and awards will be announced on March 25, 1954.

Federation for Railway Progress
1430 K Street, N.W., Washington 5, D.C.

Please rush blueprints of Train "X" as fast as they are released.
I hereby apply for membership in the Federation and enclose check ☐ money order ☐ $3 for one year ☐ $5 for two years ☐.
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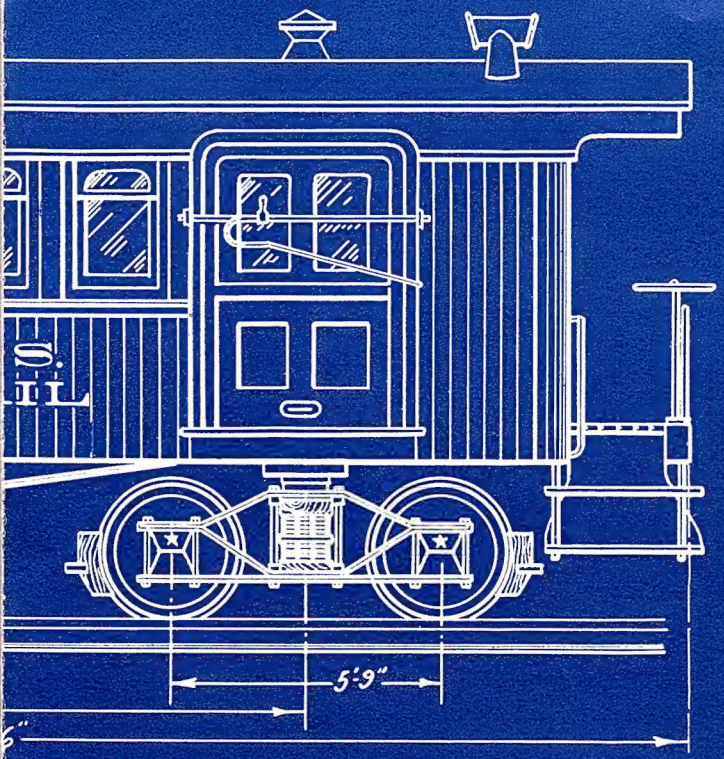

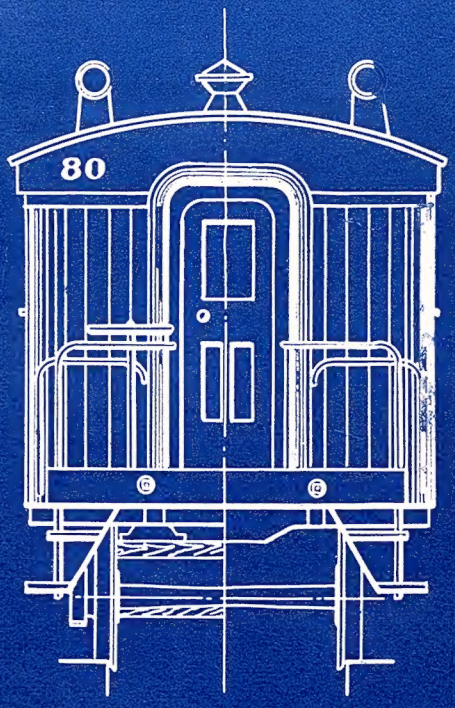

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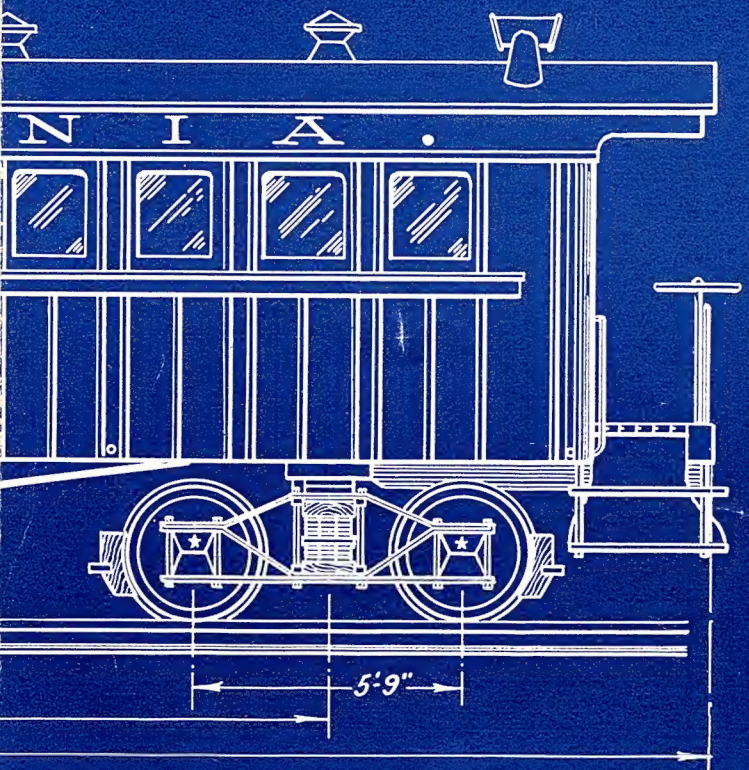
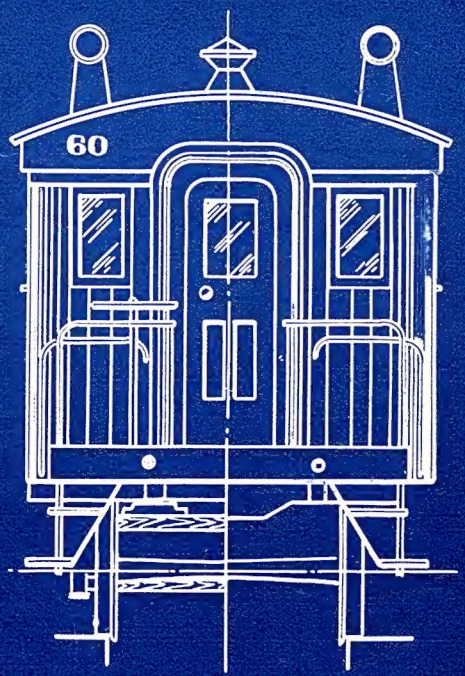
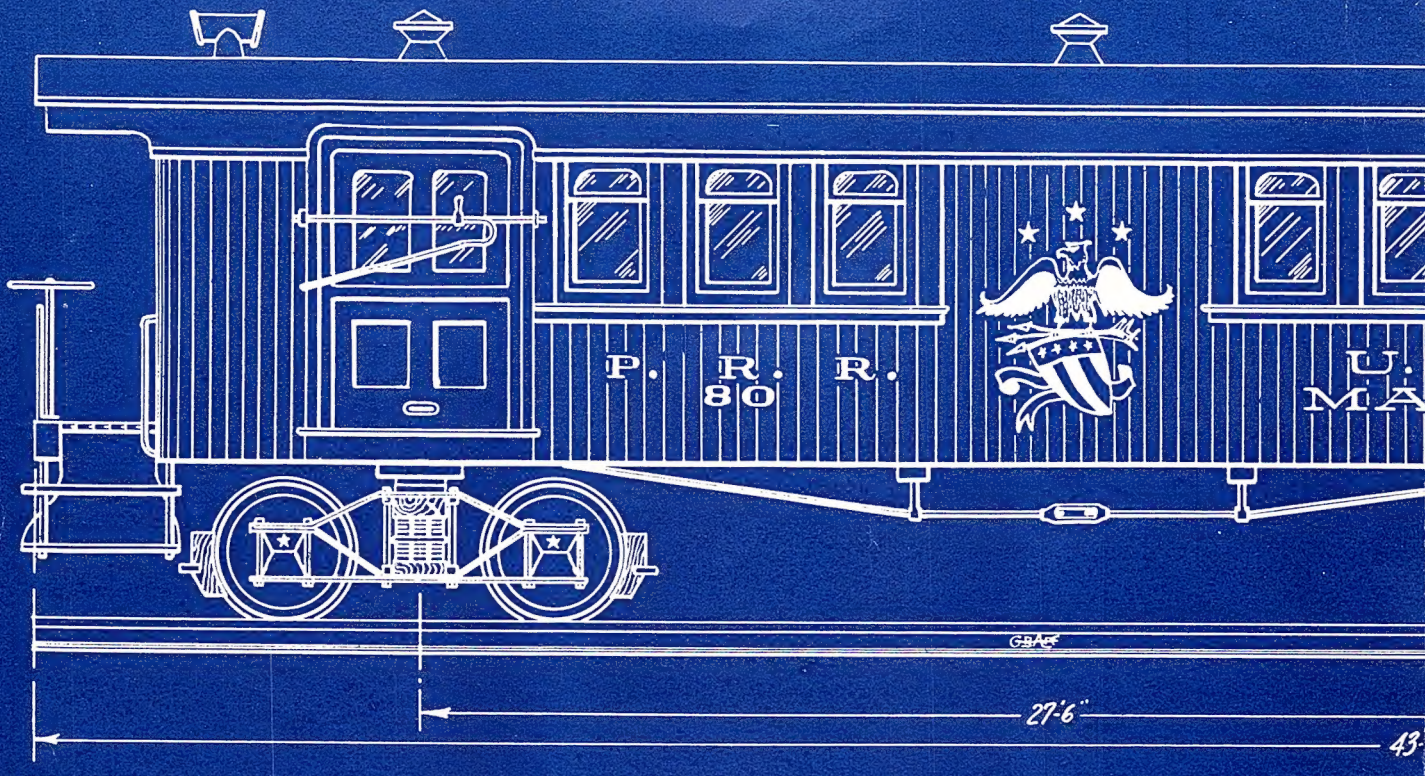
POSTAL CAR 1863
Scale: 1/4" = 1'-0" U. B. GRAEF





CONSTRUCTION NOTES
Lap moulded side panels.
Elyptically sprung arch-bar trucks.
Hand brakes, wood shoes.

44' RADIAL ROOF COACH 1863
Scale: 1/4" = 1'-0" U. B. GRAEF

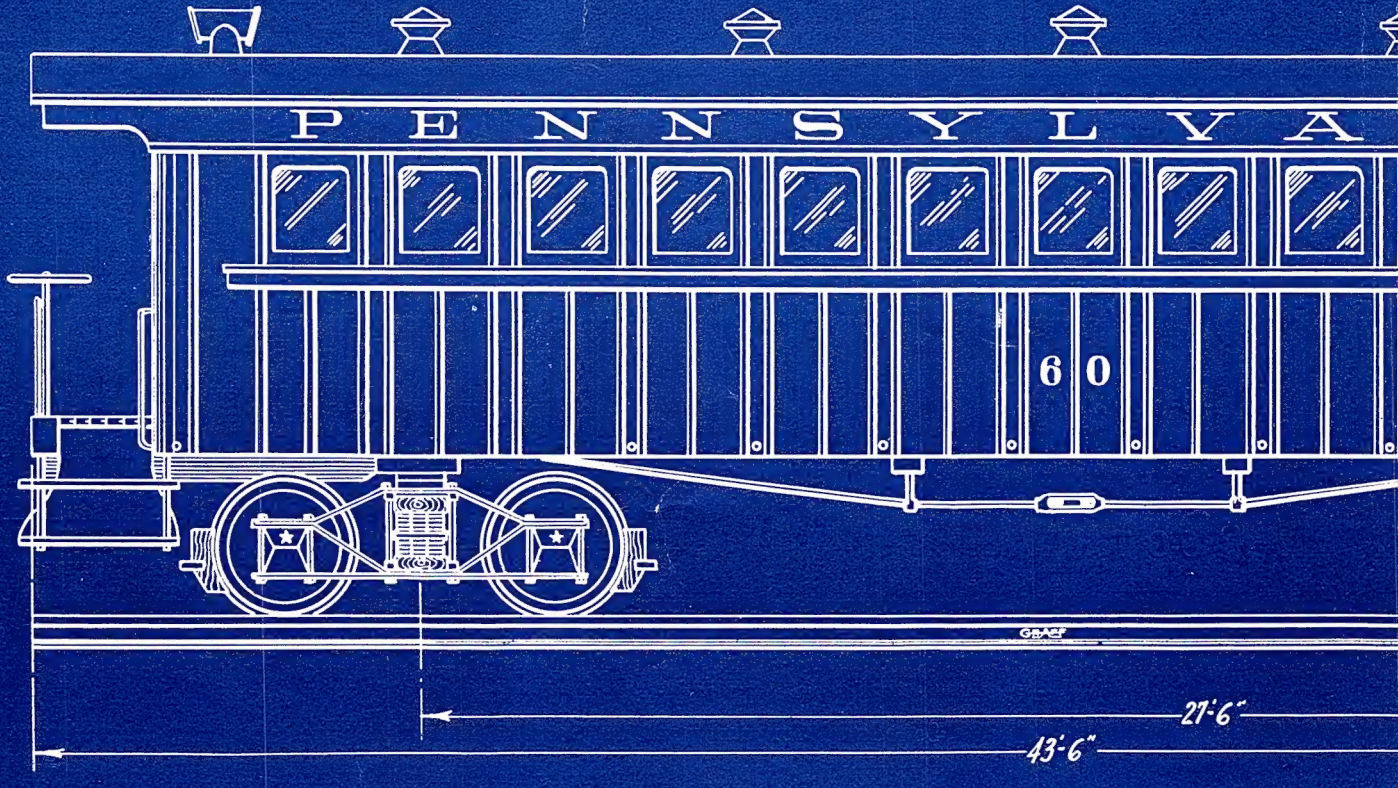


PAINT SCHEDULE

BODY & ENDS: Cadmium Yellow
DOORS & SASHES: Buff
ROOF & PLATFORMS: BROWN

TRUCKS: Black
WHEELS Vermilion.

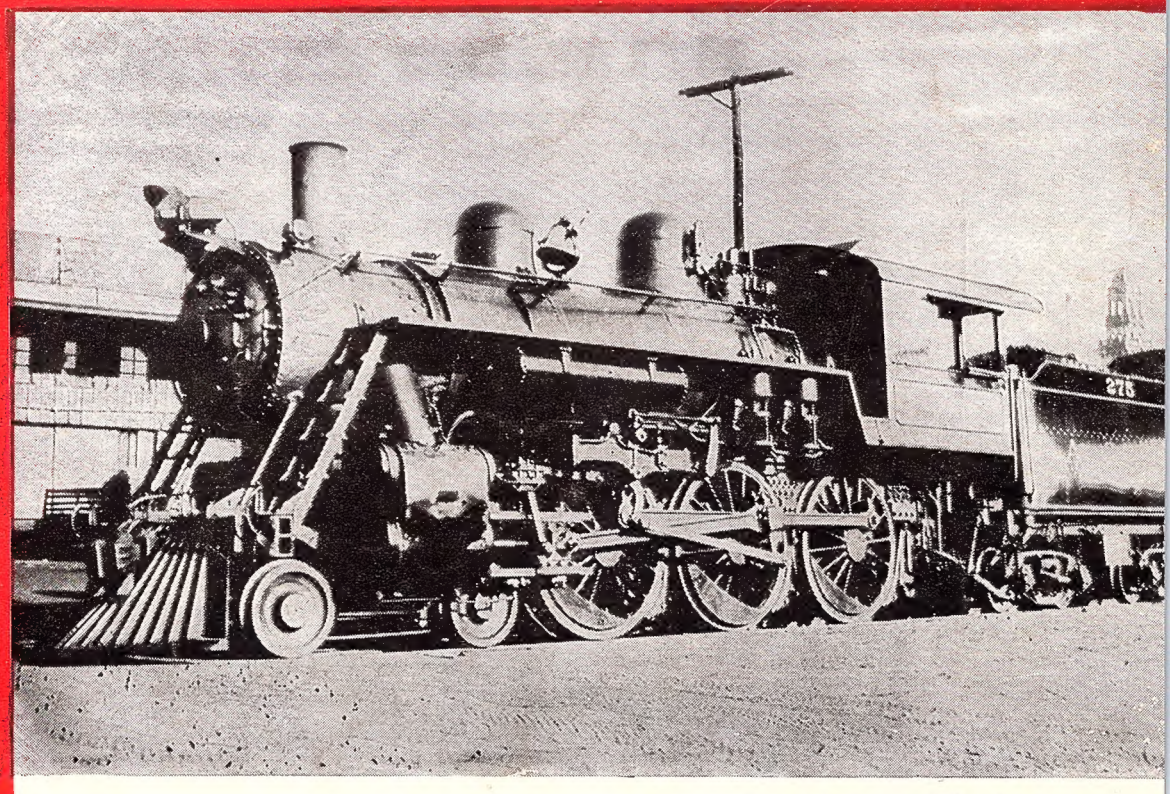
EMBLEM: Natural colo



PAINT SCHEDULE

BODY & ENDS: Cadmium Yellow
DOORS & SASHES: Buff
ROOF & PLATFORMS: Brown
TRUCKS: Black - red star
WHEELS: Vermilion

RAILROAD PHOTO ALBUM



The 4-6-0 Ten Wheeler

No. 1
The 4-4-0 American

No. 2
The 2-8-0 Consolidation

No. 3
The 0-6-0 Switcher

No. 4
The 4-6-0 Ten Wheeler

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